THE PSYCHOLOGY OF EXTREME VIOLENCE

A Case Study Approach to Serial Homicide, Mass Shooting, School Shooting and Lone-actor Terrorism

Dr Clare S. Allely

ROUTLEDGE

THE PSYCHOLOGY OF EXTREME VIOLENCE

Featuring a unique overview of the different forms of extreme violence, this book considers the psychology of extreme violence alongside a variety of contributing factors, such as brain abnormalities in homicide offenders. Featuring several contemporary real-world case studies, this book offers insight into the psychology of serial homicide offenders, mass shooters, school shooters and lone-actor terrorists.

The main purpose of this book is not to glorify or condemn the actions of these individuals, but to attempt to explain the motivations and circumstances that inspire such acts of extreme violence. By adopting a detailed case study approach, it aims to increase our understanding of the specific motivations and psychological factors underlying extreme violence.

Using nontechnical language, this book is the ideal companion for students, researchers and forensic practitioners interested in the multidisciplinary nature of extreme violence. This book will also be of interest to students taking courses on homicide, mass shooting, school shooting, terrorism, forensic psychology and criminology and criminal justice.

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This book is dedicated to my mum and dad,
Mary and Bob Allely.

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1

INTRODUCTION

In the United States, between 1978 and 1991, a man murdered 17 men and boys, with the majority of these murders taking place between 1987 and 1991. His murders involved rape, dismemberment, necrophilia and cannibalism. He also made crude attempts to lobotomize some of his victims. In the United Kingdom, a man killed his 15 male victims over a five-year period between 1978 and 1983. A man murdered 10 people (mostly women) in Wichita, Kansas in the United States between 1974 and 1991. On June 17, 2015, a 21-year-old man shot nine people at an Emanuel African Methodist Episcopal Church in Charleston, South Carolina. On May 23, 2014, a 22-year-old man embarked on a "premeditated, murderous rampage" in Isla Vista Santa Barbara, California killing six people, and himself and injuring 14 others. On December 14, 2012, a 20-year-old man shot his mother multiple times in the head before going out and killing 26 people, 20 of them young children, inside Sandy Hook Elementary School in Newtown, Connecticut. A man known as the "Unabomber" sent through the mail or hand delivered 16 package bombs to mainly scientists and academicians over the course of 17 years, which resulted in the death of three and the injury of 23 people. On July 22, 2011, a Norwegian man killed 77 people during two well-planned attacks. The first involved the bombing of government buildings in Oslo and the second the shooting spree on the island of Utøya.

In the aftermath or detection of such terrible tragedies and extreme acts of violence, the same questions are always asked. What motivated the individual to perpetrate such acts of extreme violence? Was he mentally ill? Was he insane? Did he have any brain abnormalities? Did he come from an abusive background? Were there any red flags or warning signs of what was to come? Could it have been prevented? What can we do to avoid more of these tragedies in the future? This book will address these questions through the use of case studies for a range of extreme acts of violence, including: mass shooting, school shooting, serial homicide and lone-actor terrorism. Note the use of the 'he' in the questions above. This is because

the majority of such extreme acts of violence are carried out by males. In Chapter 2, the anatomy of extreme violence is explored, including brain abnormalities, genetics and heart rate. Chapter 3 explores the psychology of serial homicide and provides a theoretical background to serial homicide, including exploring some of the factors that may contribute to this type of offending behavior. It also covers some of the key typologies of serial homicide offenders, including the disorganized and organized typology. In this chapter, a new nosology for serial homicide is discussed: the Compulsive Criminal Homicide (CCH), which attempts to bridge legal, academic and clinical perspectives on serial homicide. Two case studies of serial homicide offenders are explored in detail, Jeffrey Dahmer and Dennis Rader (both based in the United States). A brief case study of Dennis Nilsen is also covered in this chapter. Nilsen has been described as the British equivalent of Jeffrey Dahmer and it is useful to highlight the parallels between these two serial homicide offenders in terms of their premortem and postmortem interactions with their victims as well as the psychological motivations underlying their extreme acts of violence. In Chapter 4, the psychology of mass shooters is explored and the case studies of Elliot Rodger and Dylann Roof are examined in detail. Dylann Roof is also sometimes referred to as a lone-actor terrorist but, for the purposes of this chapter, he is referred to as a mass shooter. Then, in Chapter 5, the psychology of school rampage shooters is studied, first with a review of the theoretical literature and then with the examination of a detailed case study of school shooter Adam Lanza. The psychology of terrorism and lone-actor terrorism is then explored in Chapter 6, starting with an overview of the literature relating to psychology and terrorism and, then, in more specific detail with the case studies of Theodore Kaczynski (the "Unabomber") and Anders Behring Breivik. The final chapter explores the available literature and resources on threat assessment and prevention.

This book is a comprehensive resource for academics and professionals involved in extreme violence, such as psychologists, psychiatrists, investigators, lawyers, profilers, criminal justice professionals, educators, social workers and anyone who wants to understand the contributing factors that can be involved in such extreme acts of violence. This book will also be of interest to students taking courses on homicide, serial homicide, sexual homicide, mass shooting, school shooting, terrorism, lone-actor terrorism, forensic psychology and criminology and criminal justice. The main purpose of this book is not to glorify or in any way condone the actions of those who perpetrate such acts of extreme violence; rather, it aims to positively influence how we think about and respond to the individuals who perpetrate such extreme acts of violence. By adopting a case study approach, we are able to gain a rich and extremely detailed (and sometimes personal) insight into the pathway to violence in each of the offenders explored in this book, with the aim of increasing our understanding of what were the specific motivations and psychological factors underlying their extreme acts of violence. I hope that readers of this book will find it useful, informative, interesting and that it will stimulate debate and new ideas of how we can even more effectively study these individuals to increase our understanding and prevent further devastating tragedies in the future.

2

THE ANATOMY OF EXTREME VIOLENCE

The development of a lone-actor terrorist, mass shooter or serial homicide offender is the result of a combination and interaction of a number of different factors (psychosocial factors, genetic, neurobiological, etc). Psychosocial stressors such as childhood abuse is a factor that has been found to alter the trajectory of brain development (van der Kolk, 2003; Andersen et al., 2008; Blanco et al., 2015; Teicher & Samson, 2016).

The role of neurochemistry in violence

The possibility of a biological or genetic basis for serial homicide or other forms of extreme violence is controversial (DeHart & Mahoney, 1994). However, studies have found associations between neuro-chemical imbalance and aggression. For instance, studies have found that low serotoninergic activity in humans is associated with impulsive, self-destructive violence (e.g., Söderström et al., 2001; Volavka, 2002; Krakowski, 2003; Coccaro et al., 2015; however, see Duke et al., 2013). Others have shown that increased synaptic serotonin levels are related to aggression (e.g., Raine, 1993; Raine, Lencz & Scerbo, 1995; Volavka, 1995, 1999; Bell, Abrams & Nutt, 2001; Baron-Cohen, 2011). Dopamine and norepinephrine have both been found to increase levels of aggression (Raine, 1993) and there have been numerous studies that have found aberrant dopaminergic function in individuals with attention-deficit/hyperactivity disorder (ADHD), autism spectrum disorder (ASD) and schizophrenia (Söderström et al., 2001). Testosterone plays a role in aggression but its effects interact with social factors (Miller, 2000).

Monoamine oxidase A (MAO-A)

There is an increasing number of studies that have identified an association between genetics and violence. There is an enzyme called monoamine oxidase A (MAO-A) that plays a role in the metabolism of norepinephrine, serotonin and dopamine. Levels of MAO-A are genetically determined. In their study, Heide and Solomon (2006) found evidence that showed that men with *low* MAO-A activity were three times more likely to be convicted of a violent crime by the time they were 26 years of age when compared to men who had high MAO-A activity. In a longitudinal study conducted by Caspi and colleagues, which includes a large sample of male children from birth to adulthood, findings revealed an association between low levels of MAO-A activity and violence was only in those who had also experienced childhood maltreatment (Caspi et al., 2002). Interestingly, findings showed that the maltreated children with high levels of MAO-A expression were less likely to develop antisocial problems when compared to the maltreated children with low levels of MAO-A. Regarding the adult violent convictions, the maltreated males with low levels of MAO-A were found to be more likely to be convicted of a violent crime than the non-maltreated males with low levels of MAO-A. In the males who were found to have high levels of MAO-A activity, maltreatment was not found be a significant risk factor for a violent conviction. A meta-analysis that was published a few years after the publication by Caspi and colleagues (2002), which combined the results from five studies, found that the association between early familial adversity and mental health was significantly stronger in the low level MAO-A group when compared to the high level MAO-A group (Kim-Cohen et al., 2006). This was consistent with the findings from Caspi and colleagues' (2002) study. Kim-Cohen and colleagues (2006) did not just carry out a meta-analysis in their paper, but also reported the findings from their own study based on a sample of 975 seven-year-old boys. The findings replicated those of Caspi and colleagues (2002).

MAO-A has also been found to be associated with antisocial personality disorder (APD) (Beach et al., 2010). Interestingly, research has found evidence to indicate that there is a direct relationship between the MAO-A gene and features of antisocial personality, irrespective of whether the individual had experienced abuse or not (Williams et al., 2009). In both females and males with low level MAO-A gene, higher levels of lifelong aggression were reported (Eisenberger et al., 2007). In the men who had a rare genetic abnormality of the MAO-A gene, which results in low levels of MAO-A, twice the amount of serious delinquency and adult violence were found when compared to the normal controls (Guo et al., 2008).

Crucially, there does not exist a single gene that is solely responsible for crime or violence. As well as MAO-A, Raine (2013) has highlighted that there are a number of other genes that have also been identified as being contributing factors to antisocial and aggressive behavior. For instance, the 5HTT gene (Cadoret et al., 2003), the DRD2 gene (DeLisi et al., 2009), the DAT1 gene (Lee et al., 2007) and the DRD4 (Gadow et al., 2010).

Hormones of the hypothalamic-pituitary-adrenal (HPA) axis

Hormones of the hypothalamic-pituitary-adrenal (HPA) axis, which are involved in the stress response to situations that are threatening, also play a complex and important role in the regulation of aggression (Barzman et al., 2010). Psychological stress at a number of stages in development may result in long-lasting changes to the functioning of the HPA axis, which may predispose individuals to engaging in antisocial behavior (e.g., van Goozen et al., 2007). In studies involving humans, cortisol secretion is usually examined in relation to HPA axis activation. Salivary cortisol concentration is a peripheral measure that is used in many studies in order to investigate individual differences in the HPA axis, which is involved in propensities for aggression, socialization and the ability to adapt to stress (McBurnett et al., 2000). There have been some studies that have found an association between reduced basal cortisol concentrations and aggressive behavior (Van Goozen et al. 2004). However, other studies have not found this association (e.g., Azar et al., 2004). A positive association between aggressive behavior and reduced cortisol concentrations has been found by other studies (e.g., Van Bokhoven et al., 2005). Some longitudinal studies have investigated this association. For instance, one found that low levels of cortisol in childhood were predictive of aggressive behavior five years later when they were adolescents (Shoal, Giancola & Kilrillova, 2003). The salivary cortisol levels and levels of aggression in 38 clinic-referred school-aged boys were investigated in another study, which found that boys who were displaying behavioral problems and also had low levels of cortisol were found to be more aggressive at a follow-up two years later (McBurnett et al., 2000). Lastly, hypoglycaemia is now well-recognized as being associated with impulsive, violent behavior. It is suggested that this association may be potentially mediated through serotonergic mechanisms and also alcohol intake (Volavka, 1995, 1999).

Brain abnormalities and neuroanatomy of mass murderers

Cavum septum pellucidum

There is a neurological condition that is called the cavum septum pellucidum (CSP), which occurs as a result of maldevelopment of the brain. The exact factors that may cause limbic maldevelopment leading to CSP are not known (Raine, 2013). During normal development of the limbic system, two leaflets of gray and white matter fuse together, which creates what is known as the "septum pellucidum." The "septum pellucidum" is what separates the lateral ventricles, which are the fluid-filled spaces in the middle of the brain (Raine, 2013, see Figure 2.1). During the second trimester of pregnancy, there is a rapid growth of the limbic and midline structures (which include the hippocampus, amygdale, septum and the corpus collosum). Such rapid growth of the limbic and midline structures causes the fusion of the two leaflets of gray and white matter. The fusion is completed some time between three and six months after birth (Sarwar, 1989). When there is a

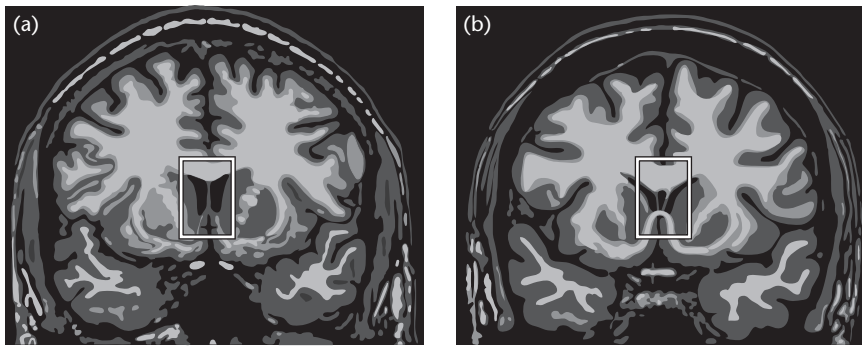

FIGURE 2.1 The septum pellucidum in a non-antisocial individual compared to the septum pellucidum in an antisocial individual. (a) shows a scan of a normal brain and (b) shows a scan of an individual with a cavum septum pellucidum (CSP).

Permission to use image kindly granted by Professor Adrian Raine.

maldevelopment of the limbic structures, the cavum is formed between the two leaflets, which do not become fused (Raine, 2013). This has led many to believe that CSP may be a potentially useful early marker for disrupted limbic region development (Sarwar, 1989), which in turn has been found to be associated with offending behavior (e.g., Pardini et al., 2013).

There have been numerous experimental studies on animals (such as rodents and monkeys) investigating CSP and the findings suggest an association between anomalies or irritation of septum pellucidum and increased levels of aggression (Shaw & Alvord Jr., 1969; Sarwar, 1989; Toivonen et al., 2013). This research was taken forward into human studies by Raine, Lee, Yang and Colletti (2010), who used magnetic resonance imaging (MRI) in order to examine CSP in a community sample. Significantly higher scores on measures of both antisocial personality disorder and psychopathy were found in individuals in the group who did have CSP ($n = 19$) compared to the control group who did not have CSP ($n = 68$). Additionally, more charges and convictions were also found in the group of individuals with CSP compared to the controls (Raine et al., 2010). There has been relatively little research carried out to date exploring the factors that may be contributing to this maldevelopment of the limbic structures, which causes CSP. However, maternal consumption of alcohol during pregnancy has been suggested as being one of the factors contributing to limbic maldevelopment (Swayze et al., 1997 as cited in Raine, 2013). It is useful to note that Raine and colleagues had controlled for other factors (such as trauma, head injury and psychiatric confounds), but the findings did not change. Therefore, CSP by itself appears to be what predisposes individuals to antisocial, psychopathic and aggressive behavior (Raine, 2013).

The two images in Figure 2.1 are coronal MRI slices at the level of the head of the anterior limb of the internal capsule, caudate, putamen, accumbens and insula. Highlighted within the central box in both images is the septum pellucidum. Illustration (a) shows a normal, fused septum pellucidum (thin membrane that separates

the lateral ventricles) in a non-antisocial control and illustration (b) shows the CSP (a fluid-filled cavum between the two leaflets of the septum pellucidum) in an individual with antisocial personality disorder.

Based on the Raine and colleagues (2010) research, the presence of CSP would appear to be a neurodevelopmental marker of psychopathy. However, a study conducted in Finland, Toivonen and colleagues (2013), found potentially contradictory results. Toivonen and colleagues scanned the brains of 26 violent offenders and 25 controls. They matched both groups according to age (control group: mean age 35 years (SD = 8), offender group: mean age 34 years (SD = 10)). All 26 offenders had been charged with violent offences (two murders, 10 manslaughter, four attempted murder or manslaughter, one assisting manslaughter, six aggravated assaults and three armed robberies). A history of recurrent violent acts was found in all of the violent offenders in the sample. History of no prior convictions were found in only two. None of the violent offenders in the sample had a history or current diagnosis of psychosis. All 26 violent offenders fulfilled the diagnostic criteria for antisocial personality disorder (DSM-IV, American Psychiatric Association, APA, 1994) and dissocial personality (ICD-10, World Health Organization. The ICD-10 classification of mental and behavioral disorders: clinical descriptions and diagnostic guidelines. WHO, 1992). In order to measure psychopathy, the Psychopathy Checklist – Revised (PCL-R, Hare et al., 2000) ratings were used. In the offenders, the mean score on the PCL-R was 26.2 (SD = 3.8, range 20–34). The mean score on the PCL-R was not given for the control group. Regarding the question of CSP and its influence on violent offending behavior, in their study Toivonen and colleagues identified the level of CSP in both groups. Two of the violent offenders (8%) had CSP and two of the control subjects had CSP (8%). Also, in addition to CSP, one of the controls also had cavum vergae. The cavum vergae is a posterior extension of the cavum septi pellucidi or CSP. What the findings from this interesting study suggest is that in the violent offenders there was no increased prevalence of CSP when compared to the controls. This would indicate that CSP may not be a typical feature of violent offenders with either psychopathy or antisocial personality disorder. However, it must be pointed out that this study was not, like the study carried out by Raine and colleagues (2010), comparing a CSP group with a non-CSP group – and the presence of two individuals with CSP in each group has too low a statistical power given the small sample size to support the argument that the existence of CSP appears to cut across the full spectrum of antisocial behaviors.

Lastly, Bodensteiner and Schaefer (1990) examined nine children who were identified as having a wide CSP (a wide CSP is defined as a separation of at least one cm between the leaves). They explored intellectual dysfunction, midline anomalies of the brain and growth failure in relation to wide CSP. The presence of a wide CSP is not common. Findings revealed that eight of the nine children displayed abnormalities such as: cognitive impairment ($n = 8$), seizures ($n = 4$), hypoplasia of the corpus callosum ($n = 4$), optic nerve hypoplasia ($n = 2$) and growth failure ($n = 4$). The findings from this study suggest that wide CSP may be part of a spectrum of anomalies of the midline brain (Bodensteiner & Schaefer, 1990).

Serial homicide offenders and neurological assessment

There has been very little research conducted to date that has used neuroimaging methodology to examine mass murderers (Fox et al., 2016; Reid, 2017). As highlighted by Reid (2017), there are some examples of serial homicide offenders who have undergone neurological testing, however, in many cases there is no evidence of any neurological dysfunction. One example is Ted Bundy who, throughout his incarceration, was subjected to extensive neurological examination, which did not reveal any evidence of psychotic or neurotic personality features nor any evidence of an organic brain disease (Rule, 1981). The medical examiner who was charged with Bundy's autopsy made the following comment, "when it was finally removed and examined, Ted Bundy's brain looked like anyone else's" (Maples & Browning, 2010, p. 132). There may, however, have been abnormalities present at the molecular level but this was not examined. Additionally, examination of the brain of serial homicide offender John Gacy, following his execution, revealed nothing remarkable (Fox & Levin, 2014). The psychiatrist who retained Gacy's brain stated that, "there's actually nothing abnormal, so no tumor, no growth, no sign of any injury… the ventricles are fine, no sign of hydrocephalus" (interview in the Chicago Tribune, 2004). Reid (2017) also very importantly points out that the majority of neurobiological investigations that have been performed on serial homicide offenders are limited as they base their examinations on dead brain tissue. Given such limitations and the barriers facing researchers to get access to this population, many researchers are using alternative populations. For instance, Professor Kent Kiehl, in collaboration with the Mind Research Network, uses a transportable MRI machine and has created the largest database of brain data from incarcerated populations (predominantly psychopaths) in the world.

Neurocriminologist Dr Raine has studied the Positron Emission Tomography (PET) scan of American serial homicide offender, Randy Kraft. He was found guilty of murdering a minimum of 16 men (predominantly homosexual drifters) between 1972 and 1983. Raine was able to observe from the PET scan of Kraft's brain that he had elevated levels of activity in the thalamus and that the functioning of his prefrontal cortex was unremarkable. Raine found this notable given his findings based on single homicide offenders, which showed the opposite. Specifically, in his studies, Raine and colleagues found evidence of reduced functioning in the prefrontal cortex of single homicide offenders while, on the other hand, finding increased prefrontal cortex functioning in the serial homicide offenders. Raine (2013) suggests that these findings would indicate that the functioning of the prefrontal cortex is more effective in serial homicide offenders when compared to single homicide offenders, which may be one of the explanations why serial homicide offenders (such as Kraft) avoid being apprehended for so long (they are not detected after their first homicide) (Raine, 2013).

As pointed out by Reid (2017), there has been relatively little neurological examination of the brains of serial homicide offenders. She highlights that the key reason for this is the number of barriers and obstacles that face researchers who are

trying to investigate the potential etiological factors that give rise to a serial homicide offender. First, penal institutions restrict access to this population. Second, the serial homicide offender's lawyer(s) and/or the offender themselves may deny access (O'Reilly-Fleming, 1996). Third, the offender may not wish to cooperate with those wishing to carry out any psychological or medical research. Fourth, the offender may be deceased, or the family refuse to give permission to access the deceased offender's brain for further scientific analysis. An example of this is the case of Jeffrey Dahmer. In a motion hearing by the State of Wisconsin regarding the estate of Jeffrey Dahmer, his father, Lionel, argued successfully for Jeffrey's brain to be cremated along with his body rather than be used for scientific enquiry (Case No. 94-PR-175, 1995).

Studies investigating brain abnormalities in murderers

There are a number of studies that have explored signs of brain abnormalities in single victim homicide offenders and found that those individuals who commit homicide tend to show "measurable neuroanatomical abnormalities" (Fox et al., 2016). A study that used magnetic resonance imaging (MRI) found, in adolescent single victim murderers, reduced volume of gray matter in the medial and lateral temporal lobes when compared to incarcerated adolescents who had not committed homicide (Cope et al., 2014). An interesting study was carried out by Gatzke-Kopp and colleagues (2001), which used both electroencephalography (EEG) and Positron Emission Tomography (PET) to investigate 14 homicide offenders. They were assessed using PET while they performed the continuous performance task and EEG was performed while the murderers were in a resting state. They found different information about the dysfunction of the brain in the homicide offender depending on whether PET was used or resting EEG. The EEG temporal-central dysfunction could not be explained by the PET findings, which were previously reported (which included reduced prefrontal, left amygdala, left hippocampus, left angular gyrus and increased occipital glucose metabolism). Slow-wave EEG was not found in frontal leads, yet, as shown in the previous PET study, glucose metabolism was lowered in the prefrontal cortex (Raine, Buchsbaum & LaCasse, 1997). However, in the occipital lobe there was a decrease in EEG slow-wave activity, which may be associated with increased glucose metabolism in the PET findings of the homicide offenders. Typically, studies examining violent offenders do not employ multiple imaging techniques, which is problematic given the findings from this study by Gatzke-Kopp and colleagues. The findings may also explain why there are inconsistencies in the findings across studies.

One study examined 15 violent murderers who were all on death row, Lewis and colleagues (1988), and found that all of them had histories of severe head injury. Major neurological impairments were experienced by five of the 15 violent murderers. Seven others were found to have other, less serious, neurological problems such as blackouts and soft signs. These findings identified evidence of

neurological abnormality in 12 of the 15 violent murderers and major neurological impairment in five of the violent murderers (Lewis et al., 1986). In another study, which examined 16 death row inmates, a history of brain damage was found in 12 (Freedman & Hemenway, 2000). In a study that examined 13 sexual homicide offenders, brain injury abnormalities were found in four (Langevin et al., 1988). However, one of the limitations of Langevin and colleagues' study was that computed tomography (CT) scans were not available in three of the 13 serial homicide cases that they examined in their study. The same group of researchers found in another study that 41% of sadists exhibited a right temporal horn dilatation abnormality. The percentage of this abnormality in the nonsadistic sexual aggressives was 11% and 13% in the controls. Therefore, when compared to the nonsadistic sexual aggressive and controls, this abnormality of the right temporal horn was much higher in the group of sadists (Langevin et al., 1988).

Raine and colleagues (1994) were interested in studying seriously violent offenders pleading not guilty by reason of insanity or who are considered incompetent to stand trial to see whether any prefrontal dysfunctions could be identified in these individuals. Specifically, using positron emission tomography (PET), they examined the local cerebral uptake of glucose while participants were engaged in a continuous performance task. A group of 22 individuals who were accused of murder were compared to 22 age-matched and gender-matched controls. In the accused murderers, there were significantly reduced levels of glucose metabolism in the lateral and also in the medial prefrontal cortex when compared to that found in the controls. The findings from this study would suggest that there was regional specificity for the prefrontal dysfunction as no differences were found between the two groups for glucose metabolism in the posterior frontal, temporal and parietal regions. In a subsequent PET study by the same research group, Raine, Buchsbaum and LaCasse (1997), a sample of 41 murderers pleading not guilty by reason of insanity and 41 age- and sex-matched controls were examined while they carried out a continuous performance challenge task. Evidence of reduced glucose metabolism in a variety of areas including the prefrontal cortex, the superior parietal gyrus, the left angular gyrus and the corpus callosum was found in the murderers when compared to the controls. Additionally, abnormal asymmetries of activity (left hemisphere lower than right) were found in the amygdala, thalamus and medial temporal lobe in the murderers. Such findings led Raine and his colleagues to argue that, in murderers who plead not guilty by reasons of insanity, there may be a network of abnormal brain processes in the cortical and subcortical regions of the brain and that this abnormal network may predispose them to engaging in violent behavior (Raine, Buchsbaum & LaCasse, 1997).

Raine and colleagues' (1997) findings are noteworthy and raise important questions, such as what other factors may be contributing to extreme violent behavior such as homicide. Raine, Stoddard, Bihrle and Buchsbaum (1998a) aimed to investigate the hypothesis that murderers who had no clear evidence of early psychosocial deprivation (e.g., no childhood abuse, family neglect) would have lower prefrontal glucose metabolism when compared to murderers with early

psychosocial deprivation and a group of normal controls. Raine and colleagues (1998a) used murderers from an earlier study by the same group of researchers (Raine, Buchsbaum & LaCasse, 1997, which was discussed in the preceding paragraph), which found evidence of prefrontal deficits in murderers. The group of murderers were then divided into those with and without psychosocial deprivation. Compared to the group of murderers who had clear evidence of psychosocial deprivation (e.g., childhood neglect, childhood abuse), murderers with no obvious signs of psychosocial deprivation were characterised more by prefrontal deficits. Raine and colleagues (1998a) found a 4.7% reduction in lateral and medial glucose metabolism in the murderers with no psychosocial deprivation. In the murderers with no psychosocial deprivation, significantly reduced medial glucose metabolism was found when compared to the murderers with psychosocial deprivation. Therefore, it appears that, in murderers with no clear evidence or signs of psychosocial deprivation, reduced prefrontal glucose metabolism is typical. The murderers with no psychosocial deprivation were found to have poorer orbitofrontal functioning, which was most notable in the right hemisphere (a lateral asymmetry) when compared to the murderers with psychosocial deprivation. Specifically, murderers with no clear evidence of psychosocial deprivation were found to have a 7.4% reduction in left orbitofrontal functioning when compared to the controls. The murderers with no clear evidence of psychosocial deprivation also showed in the right orbitofrontal cortex, when compared to the controls, a greater (14.2%) reduction in glucose metabolism. Raine and colleagues have suggested that, in violent offenders with no psychosocial deprivation (no provided home backgrounds), the "social push" to violence is reduced. As a result, "brain abnormalities provide a relatively stronger predisposition to violence in this group" (Raine et al., 1998a, p. 1).

In another study carried out by the same group of researchers, Raine and colleagues (1998b) used PET to examine glucose metabolism (a measure of regional brain activity) to see whether there were any differences in glucose metabolism in predatory (planned and controlled) murderers compared to affective (emotionally impulsive) murderers. Fifteen predatory murderers, nine affective murderers, and 41 age and sex matched normal controls were examined. Glucose metabolism was studied in a variety of areas, including: the left and right hemisphere prefrontal (medial and lateral) and subcortical (amygdala, midbrain, hippocampus and thalamus) regions. The affective murderers exhibited reduced prefrontal activity (both left and right) compared to the predatory murderers and the controls. When compared to the controls and predatory murderers, the affective murderers exhibited increased metabolism in the right hemisphere subcortical structures, including the amygdale, hippocampus and thalamus (as well as lower-right hemisphere prefrontal/subcortical ratios). In the predatory murderers, significantly increased metabolism in the same right hemisphere subcortical structures was found. However, levels of prefrontal activity were similar between the predatory murderers and the normal controls. Interestingly, evidence of reduced prefrontal functioning by an average of 7.1% was found in the affective murderers when compared to the other two groups. However, an elevation in subcortical functioning by an average of 8.7% was found

in the affective murderers. Raine and colleagues (1998b) have suggested that excessive subcortical activity predisposes an individual to engage in aggressive behavior.

This study by Raine and colleagues (1998b) also showed that there is evidence of adequate levels of left prefrontal brain region functioning in the predatory violent offenders. This allowed them to regulate their aggressive behavior for the purposes of intimidating, deceiving and manipulating others for their own gain. Unlike the predatory murderers, the affective murderers do not have sufficient levels of prefrontal modulatory control over their impulses, resulting in greater unregulated and aggressive behaviors (Raine et al., 1998b). Raine (2013) points out that this may appear like a paradox – the sufficient frontal regulatory control and increased limbic activation in the predatory murderers. However, evidence of such a combination can be seen in a variety of serial homicide offenders, Ted Bundy being one example. Bundy may have murdered as many as 100 women and girls (predominantly college students). His attacks showed a great deal of thought and planning. For instance, he would put his arm in a sling to appear vulnerable to his potential victims. He would politely ask if the young women could help him carry something to his car. Once she agreed to help and started to help him, he would lure her away to somewhere where he would not be interrupted, using his charm and good looks, where he would tear into his victim – biting her buttocks, gnawing her nipples and bashing her head before, eventually, brutally beating and killing her. Here you can see evidence of both careful planning and violent fury: "The emotional limbic cauldron was overflowing into an unbridled, unregulated killing" (Raine, 2013, p. 79).

A study replicated the findings from the study carried out by Raine and colleagues (1998b), which found reduced prefrontal activation in impulsive murderers (Amen et al., 2007). Amen and colleagues (2007) examined differences in regional cerebral blood flow using single photon emission computed tomography (SPECT) in 46 male murderers (age range 17–71 years) prior to their sentencing over a seven-year period. Twenty-seven of the 46 male murderers were right-handed and all received a resting and concentration SPECT scan. Their crimes were characterized as impulsive, non-predatory acts of violence. This subsample of 27 males was used in the present study. The 27 males were separated into two groups – those who were under the age of 30 years ($n = 11$) and those who were over the age of 30 years ($n = 16$). Amen and colleagues were focused on the under-30 group in their paper. One of the primary explanations for them focusing on the under 30s was that a normal age distribution was found in this group, something that was not found in the over-30 group. Regional cerebral blood flow (rCBF) was measured in the subjects when they were at rest and also when they were performing a computerised go/no-go concentration task. Findings did not reveal any brain regions that exhibited increased rCBF. However, the impulsive murderers, during concentration, showed a marked reduction in relative rCBF in the regions of the brain that are known to be involved in impulse control and concentration (specifically the anterior cingulate and orbital cortices). In addition, in the group of impulsive murderers, Amen and colleagues identified evidence of bilateral deactivation in the parahippocampal gyri and unci, which are areas of the brain adjacent to the

amygdala. Large clusters of decreased bilateral parietal lobe activity was found in the murderers, which is consistent with earlier findings (e.g., Raine et al., 1998b).

However, unlike the findings from the PET study carried out by Raine and colleagues, which showed significant *increases* in activity within the occipital lobe, Amen and colleagues (2007) found large areas of reduced occipital rCBF in the murderers. One explanation for the difference in findings between these two studies may be the use of different imaging techniques between them. However, studies which have used SPECT have found increased occipital activity in individuals with ADHD, which is a neurodevelopmental disorder that has an impulsivity facet (e.g., Kim et al., 2002). In their paper, Amen and colleagues state that, while they were able to carry out all the scans when the subjects were off medication, they were not able to control for the history of their murder subjects (e.g., drug use, head injury, psychiatric mental health conditions). This results in a significantly heterogeneous group. They also point out that, with such a small sample size ($n = 11$), it is not possible to control for these factors statistically due to the low power (Amen et al., 2007). Studies such as the ones carried out by Amen and colleagues and Raine and colleagues are extremely difficult and challenging to conduct. Due to the challenges and difficulties involved, there has been relatively little research carried out that builds on the findings from these studies, which have explored the possible neurobiological abnormalities in homicide offenders (Yang et al., 2010; Raine, 2013).

Studies have found that violent offenders frequently show abnormal frontal and/or temporal cerebral blood flow. Söderström and colleagues (2000) were interested in investigating this further, controlling for major mental disorder (MMD), substance abuse and current medication use. They retrospectively re-examined the HMPAO-SPECT-CBF and MRI scans from pretrial forensic psychiatric investigations of a sample of 21 subjects who had received a conviction for impulsive violent crimes. Perfusion hexamethylpropyleneamine oxime – single photon emission computed tomography (HMPAO-SPECT) measures cerebral blood flow (CBF) (Söderström et al., 2000). Visual assessment of SPECT scans showed that in 16 of the 21 participants there was a level of hypoperfusion in the temporal and/or frontal lobes. Hypoperfusion occurs in the brain when there is an inadequate supply of blood flow. Interestingly, no corresponding structural damage was identified using MRI. Regional cerebral blood flow (rCBF) in specific regions in the index cases was examined and compared to the 11 healthy control subjects. The study found that there were significant reductions in the right angular gyrus, the right medial temporal gyrus, bilaterally in the hippocampus and in the left white frontal matter. However, there was significantly increased rCBF bilaterally in the parietal association cortex (Söderström et al., 2000).

Studies investigating structural abnormalities in psychopaths

In the United States, neuroscientist Professor Kent Kiehl has suggested that the parahippocampal gyrus is one of the areas of the brain that underlies symptoms of psychopathy (Kiehl, 2006). A research team in Germany has also found that, in

psychopathic adults, there is evidence of reduced parahippocampal functioning (Müller et al., 2003). In their sample of impulsive murderers, Amen and colleagues reached similar findings (Amen et al., 2007). The hippocampus plays an important role in both fear conditioning and emotional responding. In both animal and human studies, the hippocampus has been found to be an important component in the limbic circuit that contributes to the regulation of emotional behavior and it has also been shown to be a contributory factor in aggressive, antisocial behavior (e.g., Adamec, 1991; Guillot, Roubertoux & Crusio, 1994; Gregg & Siegel, 2001; Leroy et al., 2018).

Structural abnormalities have been identified in the hippocampus of psychopaths in a number of studies. Boccardi and colleagues (2010) examined, using MRI, hippocampal volume and morphology in 26 offenders (with a mean age of 32.5 years) who were habitually violent, with differing levels of psychopathy (12 with high levels of psychopathy and 14 with medium levels of psychopathy). Levels of psychopathy were determined based on the Psychopathy Checklist Revised (PCL-R, Hare, 1991, 2003) and 25 healthy controls (with a mean age of 34.6 years). Interestingly, the findings showed that, when compared with the healthy controls and the medium psychopathy group, there was a significant depression along the longitudinal hippocampal axis, on both the dorsal and ventral aspects in the high psychopathy group. On the other hand, there was evidence of abnormal enlargement of the lateral borders in both the right and left hippocampi throughout CA1, CA2–3 and the subicular regions in the high and medium psychopathy groups when compared to the control group. In terms of volume and pattern of asymmetry, the study did not show any difference between the offenders and the controls. However, in the offenders, a unique distribution of alterations was found. These alterations included a significant enlargement of lateral borders in the hippocampal body and tail in addition to a depression along the midline longitudinal axis. The hippocampus was found to have a tendency to appear in a double convex shape in the coronal plane or frontal plane. This shape was also found to be the same on both sides of the hippocampus. However, this double convex shape in the coronal plane of the hippocampus was found to be more pronounced in the subgroup who displayed more severe levels of psychopathic features. Such findings were not the result of polysubstance abuse or amphetamine use as these were some of the potentially confounding factors that the researchers controlled for in their study (Boccardi et al., 2010).

Yang and colleagues (2009), in another interesting study, examined amygdala volumes and found that, in the psychopaths, the right and left amygdalae were both impaired, with the impairments being more marked on the right amygdalae (Yang et al., 2009). Twenty-seven psychopathic individuals, according to scores on the Psychopathy Checklist–Revised (PCL-R; Hare, 1991; 2003), were compared to a group of 32 normal controls (age-, sex- and ethnicity-matched). Yang and colleagues found that individuals with psychopathy had significant bilateral volume reductions in the amygdala when compared to the controls (left, 17.1% and right, 18.9%) (Yang et al., 2009). Lastly, in their meta-analysis, Yang and Raine (2009)

identified 43 structural and functional imaging studies. Findings from their meta-analysis of these studies showed that in antisocial individuals there is significantly reduced prefrontal structure and function. One of the main findings from this meta-analysis was that there were numerous other regions besides the prefrontal cortex that may have a significant involvement in antisocial and violent behavior (Raine & Yang, 2006). There is clearly a need for more brain imaging research examining the potential relationship between violent behavior and brain malformities in regions of the brain that have been relatively neglected, including the hippocampus, the amygdala, insula and angular gyrus (Yang & Raine, 2009).

Neurocognition of mass murderers

Research exploring the neurocognitive abilities of mass murderers with three or more victims in a single incident is sparse (Fox et al., 2016). There have been more studies carried out investigating the neurocognitive abilities of murders who have killed less than three victims in a single incident. For instance, Hanlon and colleagues (2010) studied the neurocognitive profiles of 77 indigent murder defendants and death row inmates. They found elevated rates of developmental disorders (49%), personality disorders (54%), Axis I psychiatric disorders (45%), substance abuse (86%) and history of violence (43%). The study also found that, relative to those who were charged and/or convicted of killing two or more people, the single murderers were characterised by executive dysfunction, reduced intelligence, reduced information processing speed and a higher rate of developmental disorders (58%). Significantly higher rates of personality disorders (79%) and lower rates of developmental disorders (34%) were found in those charged and/or convicted of killing two or more people when compared to the single murderers. In sum, 55% of the sample showed executive dysfunction (executive functions were significantly decreased, relative to memory functions). The murderers with two or more victims demonstrated significantly better processing speed abilities and executive functions when compared to the single victim murderers (Hanlon et al., 2010).

Traumatic brain injury

It is well-established in the literature that there is an association between Traumatic Brain Injury (TBI) and both violent and non-violent criminal behaviors (e.g., Grafman et al., 1996; Gansler et al., 2009; for a review see Raine, 2008). A number of studies have found a history of TBI to be an independent predictor of criminal and violent behaviors, imprisonment and recidivism (Hawley & Maden, 2003). Neuropsychological studies have indicated a significantly higher prevalence of brain dysfunction in offender populations, with one study suggesting that the prevalence of brain dysfunction in homicide offenders is as high as 94% (Pallone & Hennessy, 1998).

The number and type of brain abnormalities and their influence on psychosocial development, criminal history and paraphilias in sexual murderers was investigated

in a study carried out by Briken and colleagues (2005). The psychiatric court reports on 166 men who had committed a sexual homicide between 1945 and 1991 were examined retrospectively and compared to a group with notable signs of brain abnormalities ($n = 50$) and also a group without any signs ($n = 116$). Greater early behavior problems were identified in the sexual murderers who have brain abnormalities. They were also found to be less likely to cohabitate with the victim at the time of the homicide and had more victims who were six years of age or younger. Additionally, in offenders with brain abnormalities, transvestic fetishism and paraphilias not otherwise specified were more commonly found. Out of the total group of 166 men who had committed sexual homicide, any indication of brain abnormalities was identified in 31% (50/166). With regard to diagnoses, some of the abnormalities included: epilepsy, traumatic brain injuries (in eight of the men before 12 years of age) and childhood encephalitis/meningitis leading to brain damage, genetic disorders (3/50 with XYY karyotype). Brain damage was not specified in 16 of the men. Briken and colleagues were also able to identify five factors that significantly predicted being in the group that had brain abnormalities. These five factors included: transvestic fetishism, paraphilias not otherwise specified, insertion of foreign objects into the victim's vagina, victim's age of six years or younger and the absence of alcohol abuse/addiction. The findings from the study by Briken and colleagues underscores the importance of a precise neurological and psychological examination in this particular group, which can be used for the purposes of examining responsibility as well as for informing treatment and risk assessment. However, there are a number of potential limitations with this study, which are acknowledged by the authors themselves. For instance, the lack of a control group consisting of non-sexual homicide perpetrators or non-homicidal sex offenders.

The high prevalence (31%) of heterogeneous brain abnormalities found in the sample of sexual homicide perpetrators in the study by Briken and colleagues is consistent with the findings from earlier studies (e.g., Stone, 2001; Briken et al., 2005). However, it was a lower prevalence than that found in other studies (e.g., Blake, Pincus & Buckner, 1995). In their study, Blake and colleagues (1995) examined 31 individuals who, awaiting trial or sentencing for murder or undergoing an appeal process, requested a neurologic examination through legal counsel. EEG, MRI or CT, and neuropsychological testing findings were collected on these individuals. They found evidence of "frontal" dysfunction in 20 (64.5%) of the 31 cases. In nine individuals (29%) there was evidence of abnormality in the temporal lobe or symptoms indicative of this. A specific neurologic diagnosis such as borderline or full mental retardation ($n = 9$) and cerebral palsy ($n = 2$) was made by Blake and colleagues in 20 (64.5%) of the individuals in their sample. Abnormalities in all subjects who underwent neuropsychological testing were found. In eight of the 20 subjects tested, EEG abnormalities were identified, most notably, bilateral sharp waves with slowing. Abnormalities were identified using MRI or CT in nine of the 19 subjects who underwent testing. These abnormalities were largely atrophy and changes in the white matter of the brain. Some of the psychiatric disorders

identified included: paranoid schizophrenia ($n = 8$), dissociative disorder ($n = 4$) and depression ($n = 9$). In the majority of subjects, there was evidence of paranoid ideas and misunderstanding of social situations. In 26 individuals (83.8%), a history of profound, protracted physical abuse was found. A history of sexual abuse was identified in 10 individuals (32.3%). Blake and colleagues (1995) argue that it may be the case that "prolonged, severe physical abuse, paranoia, and neurologic brain dysfunction interact to form the matrix of violent behaviour" (Blake, Pincus & Buckner, 1995, p. 1641).

A review by Allely (2016) highlighted the urgent need for screening for TBI in individuals who become involved with the criminal justice system (at any stage such as: during parole, court diversion or while the individual is in a correctional programme) (Cicerone et al., 2011). However, there is a need for caution when investigating potential associations between extreme violence and neurological impairment or TBI. We would see much higher instances of individuals engaging in extreme violence (e.g., mass murder, serial homicide) if head trauma was a significant factor (Fox & Levin, 1999). In individuals who have experienced a TBI, only a small subgroup exhibited violent behavior (Grafman et al., 1996). There is a wide range of potential risk factors (e.g., adoption, shyness, disfigurement, speech impediments, learning and physical disabilities, abandonment and parental death) that may predispose an individual to engage in violent behavior (Raine, 2013). In their systematic review exploring neurodevelopmental and psychosocial risk factors in serial killers and mass murderers, Allely and colleagues (2014) found that, among all the 239 eligible killers, 21.34% ($N = 51$) had had a definite or suspected head injury. Importantly, the great majority of those with ASD or head injury had also experienced psychosocial risk factors, including: parental divorce, physical or sexual abuse and major surgery during childhood. This led Allely and colleagues to argue "that to a certain degree, there is a complex interplay between neurodevelopmental and environmental factors – particularly psychosocial adversity – which can potentially result in an individual being predisposed to develop into a serial/mass killer" (Allely et al., 2014, p. 297).

Heart rate

Heart rate is a psychophysiological measure that is controlled by both the parasympathetic and sympathetic branches of the autonomic nervous system (Portnoy & Farrington, 2015). Some studies claim to have found that resting heart rate is significantly lower in antisocial children compared to controls (e.g., Kindlon et al., 1995; Raine, Buchsbaum & LaCasse, 1997; van Goozen et al., 2000; Herpertz et al., 2001) and that the effect is found in girls as well as boys (Maliphant, Hume & Furnham, 1990). Koegl and colleagues (2018) found an association between low resting heart rate and more convictions for property, weapons, drug and other offenses in a sample of incarcerated adult males (Koegl, Farrington & Raine, 2018). Nevertheless, other studies have failed to observe such effects (e.g., Garralda, Connell & Taylor, 1991; Zahn & Kruesi, 1993; Pine et al., 1998; van Hulle et al.,

2000). There are qualitative features of the findings that additionally suggest that the antisocial–heart rate relationship is robust. First, research findings indicate that the antisocial–heart rate relationship is replicable across cultures in seven different countries in both hemispheres, including the United States (e.g., Rogeness et al., 1990), Canada (Mezzacappa et al., 1997), England (Wadsworth, 1976), Germany (Schmeck & Poutska, 1995), New Zealand (Moffitt & Caspi, 2001), Mauritius (Raine, Buchsbaum & LaCasse, 1997) and Siberia (Slobodskaya, Roifman & Krivoscekov, 1999).

A meta-analysis was conducted on 45 independent effect sizes of the resting heart rate–antisocial behavior relationship obtained from 40 studies meeting inclusion and exclusion criteria. Studies were conducted between 1971 to 2002 using a total of 5868 children. The findings from this meta-analysis concluded that low resting heart rate is associated with higher levels of antisocial behavior (Ortiz & Raine, 2004). The findings from this meta-analysis are consistent with the findings from a more recent one carried out by Portnoy and Farrington (2015), which included 114 studies and tested a range of moderators that may impact on the association between heart rate and antisocial behavior. This meta-analysis demonstrated that the relationship between low resting heart rate and antisocial behavior is highly replicable and applies to multiple types of antisocial behavior, including aggression and psychopathy. Specifically, in individuals with low heart rates, there was a 10% increase in rate of offending. Findings confirm the importance of low resting heart rate as a robust biological correlate of antisocial behavior (Portnoy & Farrington, 2015). Five prospective studies were highlighted by Ortiz and Raine (2004) to rule out the possibility that living a delinquent way of life could in some way cause low heart rate (Wadsworth, 1976; Farrington, 1997; Raine, Buchsbaum & LaCasse, 1997; Moffitt and Caspi, 2001).

Despite it being well-established in the literature that a low resting heart rate is one of the most replicated biological correlates of antisocial behavior, the precise nature of this association is not well understood (Portnoy et al., 2014). However, there are three key potential mechanisms (and a fourth suggestion regarding unknown mechanisms at play) that may possibly underly this relationship:

1. **Stimulation seeking theory** argues that low arousal represents a physiological state that is not pleasant. In order to increase their arousal levels to a normal level, individuals who are antisocial will seek stimulation (Raine, Buchsbaum & LaCasse, 1997) and, for some children, antisocial and aggressive behavior may be considered a type of stimulation-seeking.
2. **Fearlessness theory** (Raine, 1993) suggests that, if an individual exhibits low levels of arousal during psychophysiological test sessions that are mildly stressful, then this is one indication that the individual has low levels of fear (Raine, 1993, 1997). Children who lack fear have been found to be not as likely to be responsive to socializing punishments. This may be one of the factors that results in poor fear conditioning and impaired development of conscience (Raine, 1993).

3. **Biosocial theory** predicts that a low heart rate, rather than acting in isolation, interacts with psychosocial risk factors in predisposing an individual to antisocial behavior (Raine, 2002).
4. **Low heart rate as a marker for other unknown processes at play.** It has also been suggested that low heart rate may potentially be a marker for other processes that may contribute to antisocial behavior as opposed to being directly on the causal pathway to antisocial behavior (Raine, 2013).

Lastly, in order to examine the hypothesis that antisocial adolescents who desist from crime by age 29 have greater physiological arousal when compared to antisocial adolescents who later become criminals in adulthood, Raine, Venables and Williams (1995) measured resting heart rate in 101 unselected males (aged 14–16 years). Of the 101 males, 17 antisocial males were identified who had desisted from adult crime (the desistors). These 17 desistors were matched on adolescent antisocial behavior and demographic variables with 17 antisocial subjects who did become criminal by age 29 (the criminals) and 17 non-antisocial, non-criminal normal subjects. Findings revealed that the individuals who had desisted from crime exhibited significantly higher resting heart rates when compared to both the criminal and the control group. This suggests that a high heart rate protects against adult crime.

Homicidality, homicide and Lyme disease

Lyme disease (LD), or Lyme borreliosis, is the most common tick-borne infectious disease caused by the bacteria Borrelia burgdorferi, Borrelia garinii or Borrelia afzelii. LD is frequently found to be related with dysfunction in white matter and many individuals exhibit explosive anger. One study found that 68% of LD patients had acquired some form of aggressiveness. For instance, 11% became homicidal after being infected with LD and 26% of the patients who were suicidal were also homicidal (Bransfield, 2017). It has been suggested that Adam Lanza, the shooter at the Sandy Hook Elementary School massacre, may have had LD. However, Bransfield noted (2018) that the medical examiner did not pursue assessment for LD (Bernstein, 2013; Altimari, 2013). To investigate the association between LD and homicidality, Bransfield (2018) retrospectively reviewed the LD charts and analyzed aggressiveness and homicides in a group of 50 homicidal patients and a group of 50 non-homicidal patients. There was a total of five homicides in the group of 50 patients who were homicidal. Interestingly, 49 of the 50 homicidal patients were not homicidal prior to being infected with LD. Before being infected with LD, one patient may already have been homicidal. Approximately 9.6% of LD patients were homicidal and reported having horrific intrusive symptoms. Patients reported that the typical intrusive symptom would contain frightening, stabbing, horrific images, usually of death, dying or pain and suffering. It was also reported that these images could evolve into visions of stabbing or killing (usually people known to the individual). Some patients also reported experiencing intrusive thoughts of killing multiple family members and themselves (Bransfield, 2018).

Social factors interact with biological factors to increase the propensity for violence

In his book, *The Anatomy of Violence*, Dr Raine (2013) highlights that there is an interaction between social factors and biological factors that increases the propensity for violence in an individual. As stated by Allely and colleagues, "a complex interplay between neurodevelopmental and environmental factors – particularly psychosocial adversity – can potentially result in an individual being predisposed to develop into a serial/mass killer" (Naik, 2009; Fallon, 2013; Allely et al., 2014, p. 297). It was posited by neuroscientist Professor James Fallon that there are three key factors that underlie why someone engages in violence. Specifically, genetic predisposition, damage to specific regions of the brain and the experience of extreme trauma and/or poor parental bonding during childhood.

Professor Fallon investigated the PET scans of psychopaths (including psychopathic murderers) and the PET of a group of controls and identified an intricate pattern in the PET scans of the psychopaths. Reduced levels of activity were identified that went from the orbital cortex into the ventromedial prefrontal cortex and into an area of the prefrontal cortex that is called the anterior cingulate (see Figures 2.2 and 2.3). The pattern of reduced activation was found to continue as a thin strip along the cingulate cortex all the way to the back of the brain, where it then loops down into the lower part of the temporal lobe and then into the tip of the temporal

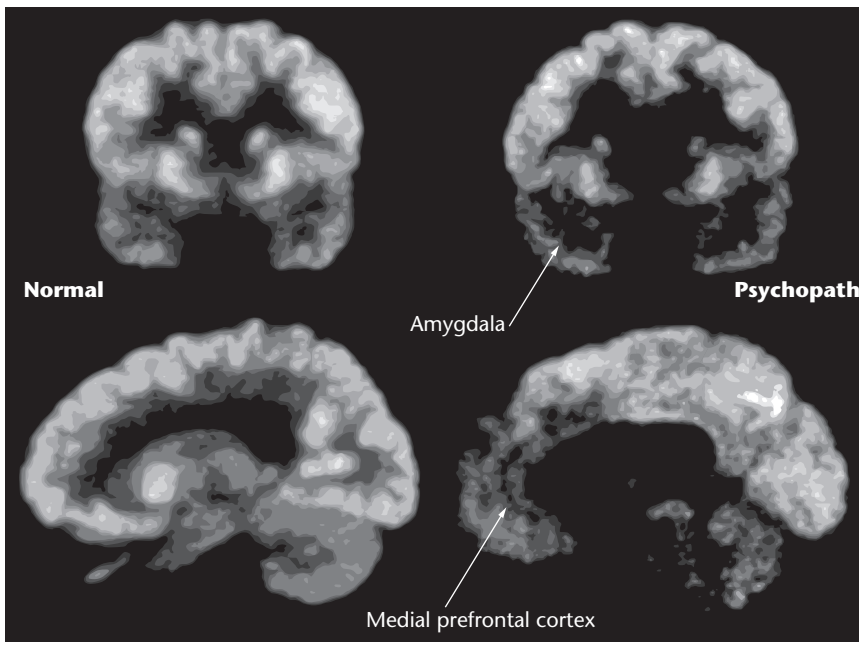

FIGURE 2.2 PET scans of normal brains and that of a psychopath.

Permission to use image kindly granted by Professor James Fallon.

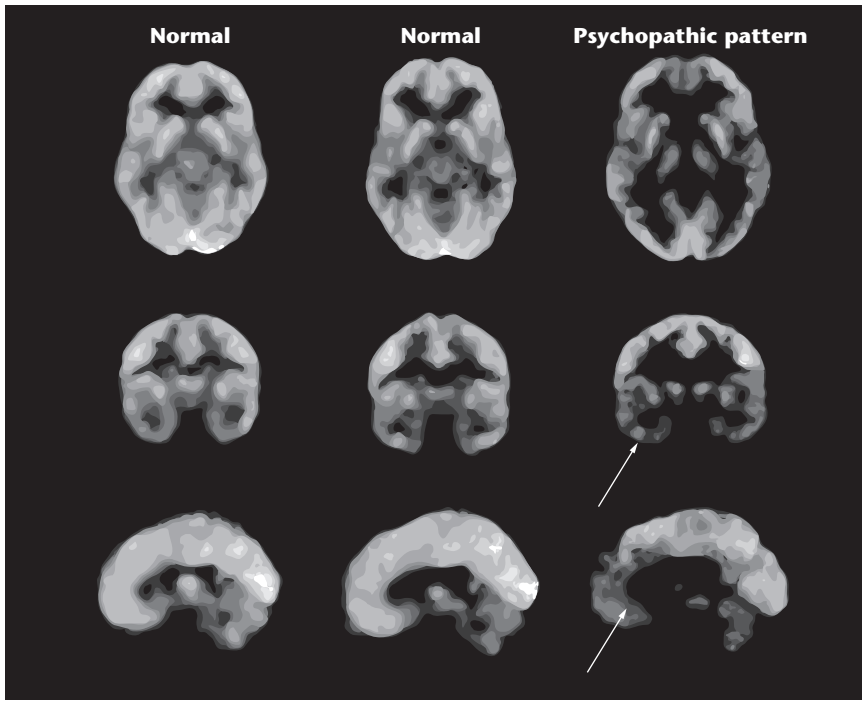

FIGURE 2.3 PET scans of normal brains and that of a psychopath.

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lobe and the amygdala (Fallon, 2013, p. 58). The reduced levels of activation in the psychopaths involved a substantial part of the limbic cortex (which are the key areas of the brain responsible for regulating emotion). Fallon found this loop of reduced cortical function to come full circle, as he observed in the psychopathic murderers, evidence of damage or low function in the "connector" strip of cortex between the orbital, cingulate and temporal cortex – the insula (Fallon, 2013, p. 59).

Conclusion

Studies that have investigated the incidence of brain abnormalities and injury as antecedents of extreme acts of violence (e.g., homicide) remain in their infancy (Yin, 1994). However, the research to date shows significant relationship between them.

Key points

- The additive quality of both neurobiological and environmental factors increases the propensity for violence in an individual (e.g., Raine, Buchsbaum & LaCasse, 1997).

- Research has shown that, in individuals with a history of abuse, the low-MAO-A gene is particularly associated with antisocial behavior.
- Low resting heart rate is associated with higher levels of antisocial behavior.
- A history of traumatic brain injury has been found to be an independent predictor of criminal and violent behaviors, imprisonment and recidivism.

Essay/discussion questions

1. What are some of the key neurobiological abnormalities that may contribute to extreme acts of violence?
2. Review some of the key areas in the brain that can contribute to violent behavior and explain their function.
3. Critically review whether neurological evidence can help courts assess criminal responsibility.

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3

SERIAL HOMICIDE

Definition

The classic Federal Bureau of Investigation (FBI) Crime Classification Manual (Douglas et al., 1992) stated that, in order to be assigned the category of a serial homicide offender, the crimes must "involve three or more separate events, with an emotional cooling off period between homicides" (p. 12). Despite there being a wide range of definitions for a serial homicide offender, the most widely used definition of serial homicide is the one put forward by the FBI. The currently used definition of a serial homicide by the FBI is: "the unlawful killing of two or more victims by the same offenders in separate events" (FBI, 2008, p. 12). There is significant variety in the definition with respect to the minimum number of victims (between two and five), whether the victim was previously known to the offender, similarity in killing patterns, whether the homicides were premeditated and motivation (Adjorlolo & Chan, 2014). It is important to consider the definition that is used because exactly how the serial homicide is defined determines prevalence rates of such homicides and also dictates how it is handled. Fridel and Fox (2018) found that two-victim offenders were significantly different from all other serial homicide offenders with regards to their motivation, partnership and crime scene behaviors. Therefore, Fridel and Fox argue that they should not be pooled into a single population. Additionally, they found that those who have killed between three and seven victims were significantly different from those who have killed eight or more with regards to these same characteristics (motivation, partnership and crime scene behaviors). Given these findings, Fridel and Fox argue that a minimum victim threshold of at least three should be utilized. This would separate potential or would-be serial homicide offenders from those who are characterized by much more extreme levels of violent behavior (Fridel & Fox, 2018 – but see Yaksic, 2018).

However, others have argued that the number of victims required for an individual to meet the definition of a serial homicide offender (e.g., two, three, five or 10) is completely arbitrary. It is usually unrelated to the drive to act out in a repetitive fashion. Often, the serial aspect is more related to factors outside the offender than being related to the underlying dynamics that motivate their crimes. Take, for instance, the case of Dennis Rader, the BTK killer in Kansas (Beattie, 2005). If Rader had been apprehended after his first or second homicide, he would obviously not have gone on to kill 10 people. Nevertheless, he would still remain the same person with the same inner compulsion to commit homicide. He would just not have been categorized as a serial homicide offender/serial killer. Therefore, *compulsive* more effectively captures the main motivating drive behind such offending compared to *serial* (Schlesinger, 2008). More on the importance of looking at compulsion when it comes to defining serial homicide is reviewed below. What is usually agreed upon when it comes to definitions of serial homicide offenders is that a cooling-off period lasts a minimum of 30 days (Osborne & Salfati, 2015).

Compulsive criminal homicide: a new nosology for serial murder

Since the early 1980s, the use of the term "serial" has become a well-accepted adjective when referring to those who murder or rape in a series (Schlesinger, 2008). The notion that serial homicide offenders experience a compulsive drive or impulse to kill is well-accepted. This compulsive drive to commit homicide has been described as being a "tension state" that is fuelled by the fantasies of the individual (Schlesinger, 2004). The compulsion to kill in the serial homicide offender is "part of a stress-relief regimen to resolve a build-up of internal conflict" (Yaksic, 2015, p. 112). Kocsis (2008) has suggested that, when examiners investigate serial homicide offenders, they neglect to consider the importance of underlying compulsions. Instead, there is a focus more on concrete elements of the crimes (such as the number of murders). However, focusing on these more concrete elements hinders serious examination into the compulsive aspect of these crimes (see Reid, 2017).

The FBI's current definition of serial homicide is very broad and non-specific – there are no clearly specified boundaries for inclusion and exclusion. This means that there is significant variation in how it is understood and interpreted by those who are carrying out research, which ultimately is detrimental to development in the field (Petee & Jarvis, 2000; Reid, 2017). It also hinders the ability of researchers to carry out and draw inferences from comparative studies (Kocsis & Irwin, 1998; Hickey, 2002; Arndt, Hietpas & Kim, 2004). There is a critical need for a standardized definition of serial homicide. Reid (2017) accurately points out that it creates issues when it comes to classification. For example, the motivation underlying individuals who kill a series of people for profit (such as contract killers/hit men) are very different to those driven to kill for the purposes of sexual pleasure and gratification (Schlesinger, 2004, 2008).

Reid (2017a) has posited the adoption in the academic research community of the newly advanced criteria labeled under the heading of: Compulsive Criminal

Homicide (CCH). CCH offers an extensive criteria-based description that not all definitions of serial homicide have (see Table 3.1 for the criteria-based description of CCH). The word "compulsive" specifically refers to the patterned and repetitive nature of their crimes. Crucially, the use of the term "compulsive" does not in any way indicate that the offenders lack control. Instead, it focuses on the impetus or drive for repetitive homicide (Reid, 2017). There are a growing number of researchers who are in support of a broadening of the inclusion criteria for serial homicide (see Yaksic, 2015).

Further, Schlesinger (2000) has argued that the fundamental psychological dynamics of all true serial homicides can be broken down into three key elements: (1) sexual sadism, (2) intense fantasy and (3) a compulsion to act out that fantasy. In any given serial murder case, all three components will be present, but the proportion and intensity of each will differ from perpetrator to perpetrator, as follows.

1. **Sexual sadism.** This is defined as sexual arousal derived from the physical suffering, humiliation, domination and control of the victim, and is at the core of serial sexual homicide: these individuals kill sadistically because nothing else gives them the same kind of thrilling stimulation.
2. **Intense fantasy.** As noted previously, in the early development of the serial killer, fantasies of domination, control and sexual aggression initially serve as mental rehearsal for the soon-to-occur behaviors, and fantasies are later used to relive and reinforce the pattern of killings once they have begun.
3. **Compulsion to act out fantasy.** Many offenders describe a state of mounting inner tension, precipitated and maintained by fantasy, that builds over time into an almost unbearable state, the only relief for which is obtained by the act of sexually sadistic murder. Once the homicide is carried out, the tension is discharged and the offender feels a sense of relief and satisfaction – until the cycle begins again (see also, Miller, 2014b).

Schlesinger points out that, powerful though this compulsion may be, it does not constitute an "irresistible impulse" in the legal sense.

Prevalence of serial homicide

Attempts to estimate the prevalence of serial homicide victims vary significantly (Quinet, 2007). There are a number of explanations for this (Jenkins, 2005): when apprehended, serial homicide offenders may often overestimate the number of their victims (Fox & Levin, 2005; Quinet, 2007); gaining access to serial homicide offenders to carry out research interviews is extremely difficult (Silvio, McCloskey & Ramos-Grenier, 2006); and incidence and prevalence of serial homicide is difficult to ascertain because accurate statistics are not kept (Myers et al., 1993; Schlesinger, 1998; Brantley & Kosky, 2005). The fact that there exists no single, generally accepted definition for serial homicide is another challenge (Ferguson et al., 2003). Caution is also required when examining longer-term homicide trend figures. This

TABLE 3.1 Compulsive Criminal Homicide (CCH), a new nosology for serial homicide that attempts to bridge legal, academic and clinical perspectives on serial homicide

The goal-based and ritualized murder and/or attempted murder of human beings where:

A the total achieved murders numbers three or more, OR the total achieved murders numbers two and there was at least one more attempted murder[a]

B the combination of total achieved and/or attempted murders can be linked forensically and/or upheld judicially[b]

C the primary goal of the perpetrator is intrinsic and based in psychological motivations of personal gratification

D the murder is not carried out at the behest of another or in response to a personal attack on oneself or a loved one[c]

E the offender exercises independent conscious deliberation, purposeful control, planned forethought and intentional action in the acquisition, constraint, handling and/or eventual elimination of the victim[d]

F each event of murder occurs as a discreet event that occurs at different intervals of time and are interrupted by a break or dormant period between homicides wherein the offender returns to their usual way of life[e]

G subsequent killings meet corollaries A–F.

Note A: All corollaries (A–G) must be met in order to secure the title of CCH.

Note B: Those who commit a spree killing as defined by Douglas, Burgess, Burgess and Ressler (2006) will be excluded from the label of CCH if their murders were limited to that one instance of spree killing. If spree murders were committed at some point during the series in addition to the murders of at least three others and if the murders fit the criteria set forth in corollaries A–F then the individual will meet the criteria for CCH. Ted Bundy was one such individual who demonstrated spree-like murders near the end of his series. *Ritualized* is defined as behaviorally similar (though not necessarily identical) actions engaged in during the commission of the crime. Examples include but are not limited to: (1) engaging in specific pre- and postmortem sexual acts (e.g., foreign object insertion); (2) the infliction of extreme humiliation and shame during the process of killing (e.g., filling mouth with dirt); (3) excessive violence and beating (e.g., infliction of 150 stab wounds); and (4) power, control and domination, including behavior that allows the offender to exercise unlimited control over victims (e.g., binding).

a When the total number of achieved murders is only two, there must also be at least one attempted murder as well. Attempted murder is not necessary in cases where the total number of achieved murders is three or more.

b All cases must be upheld judicially. However, because forensic analysis is not always possible in every situation (i.e. the body is never found or there is not enough physical evidence), the forensic aspect of this corollary is only recommended.

c The following exclusions would thus apply: murders carried out on behalf of criminal enterprise, mercenaries, revenge, loyalty, terroristic homicides, organized crime (including gangs) or contract murder, as well as on behalf of war or self-preservation.

d Those experiencing an acute catathymic crisis and/or those who are actively psychotic during both the planning and commission of their homicidal offences are excluded from this nosology. Multiple murderer and cannibal, Hadden Clark, is an example of one who would be excluded from this nosology. Those who are intoxicated are not excluded.

e Restrictive temporal distinctions have limited the utility of serial murder definitions (Yaksic, 2015). Thus, no assumptions are to be made regarding the space between the crimes. So long as there is a break period wherein the serial murderer returns to their usual way of life, the criteria holds. Mass murder and spree murder would be excluded (Reid, 2017).

is due to the fact that they are typically based on the year in which offenses are recorded by the police as opposed to the actual year that the homicides occurred. Also, in cases where a number of individuals are killed by the same perpetrator, rather than the number of homicide incidents, what is recorded is the total number of persons killed. An example of this is the victims of the Cumbrian shootings, which occurred on June 2nd, 2010. They were counted as 12 homicides rather than one incident in the 2010/11UK data (Smith et al., 2012). It is not possible to examine temporal trends or to make international comparisons in the prevalence rates of serial homicide (Egger, 1984; Dietz, 1986; LaFree, 1999a, 1999b; Salfati, 2001; Duwe, 2004; Jenkins, 2005). Additionally, between countries, there is the adoption of different legal definitions of crime (Vetere & Newman, 1977). Any attempt to determine the prevalence of serial homicide is also made difficult because of cases where we are not aware the murders have taken place, cases in which homicides are known to have occurred but no connection has been made between them and/or cases where the offender remains at large (Allely et al., 2014).

The role of psychosocial mediators or stressors

There have been a number of experts who have highlighted numerous psychosocial mediators (such as poor parenting; abuse; unstable family environment) that may contribute to the development of a serial homicide offender (Hickey, 1997; Ressler, Burgess & Douglas, 1988). However, it is possible that the importance that is given to these factors with regards to their contribution to the development of serial homicide offenders may be overemphasized. Many serial homicide offenders have experienced little or no abuse or significant psychosocial stressors during their early development (e.g., Masters, 1993; Mladinich, 2001). Other studies have found it to be a pervasive characteristic in serial homicide offenders. For instance, in a study of more than 60 serial homicide offenders, Cleary and Luxenburg (1993) found that psychological and/or physical abuse was a pervasive characteristic of serial homicide offenders' childhoods, which supports the findings from a number of other studies and case reports (Norris, 1988; Stone, 1989; Ressler & Shachtman, 1992; De Becker, 1997; Inguito et al., 2000; Myers, 2004; Mitchell & Aamodt, 2005; Myers, Gooch & Meloy, 2005; Mouzos & West, 2007; LaBrode, 2007).

However, across studies there is significant variation in the prevalence of childhood abuse (Beasley, 2004; Mitchell & Aamodt, 2005). In a group of 62 male serial homicide offenders, Hickey (1997), 48% were identified as having experienced rejection as a child by a parent or another key person in their lives. Research that has investigated the impact of childhood abuse and neglect on violent behavior of adults who became serial homicide offenders found that, when compared to non-abused adults, those who had been physically, sexually and emotionally abused as children were three times more likely to act violently when they were adults (Dutton & Hart, 1992). Other factors such as humiliation (Ressler, Burgess & Douglas, 1988; Stone, 1989; Hale, 1994) and narcissistic injury (such as a perceived threat to a narcissist's self-esteem) (Stone, 1989) can also contribute to homicidal behavior. However, many

of the studies in this area lack comparison groups who are derived from non-offending populations for which the same definitions of trauma were used. This makes it a real challenge to determine if and to what degree serial homicide offenders have suffered more as children compared to others (Fox & Levin, 1998).

In another study, Harbort and Mokros (2001) examined 61 convicted serial homicide offenders and found that they were most likely to be of average intelligence. Surprisingly, only three (5.2%) of the 61 convicted serial homicide offenders reported a history of having been sexually abused when they were children. Psychological descriptors used to characterize these offenders included lack of empathy, hostile emotional state, emotional instability, egocentricity, lack of responsibility, low frustration tolerance, poor impulse control and low self-confidence. Miller (2014b) points out that, with the exception of low self-esteem, all these psychological descriptors are considered to be classic features or traits of narcissistic and antisocial personalities.

There have been a number of cases that describe early adoptions, neglect and abandonment as some of the childhood factors that may contribute to violent crime committed later in life (Moes, 1991; Burgess et al., 1994; Pollock, 1995; Kirschner & Nagel, 1996) and serial homicide offending (Claus & Lidberg, 1999; Whitman & Akutagawa, 2004). Numerous adoption studies have investigated the genetic and environment risk factors for violence. For instance, the findings from one adoption study showed that, if the child's biological parents and their adoptive parents are both violent, the risk of the child growing up to engage in criminal behavior is 40%. They also found the risk to be 12.1% if only the genetic factor was involved. If the child was raised in a violent environment, but the child's biological parents were not both violent, the risk was found to be 6.7%. If the child did not have any of these biological or environment risk factors, only 2.1% would be criminal in later life. These findings would indicate that, when there is a combination of genetic and environment risk factors, there is a marked increase in the risk that the individual will later engage in criminal behavior (Cloninger et al., 1982).

Criminal history in serial homicide offenders

A number of studies have found that over half of serial homicide offenders and other multiple homicide offenders have a past criminal history and there are a few who have exhibited a lifelong, frequently escalating, pattern of antisocial and criminal behavior (e.g., Harbort & Mokros, 2001; DeLisi, 2001, 2003, 2005; Fox & Levin, 2003; DeLisi & Scherer, 2006). Studies have also identified a common association between serial homicide and burglary and rape (Hazelwood & Douglas, 1980; Ressler et al., 1986; Douglas & Olshaker, 1998; DeLisi & Scherer, 2006).

Origins and processes of behavioral profiling

The term behavioral profiling is usually referred to as "a technique for identifying the major personality and behavioral characteristics of an individual based upon an

analysis of the crimes he or she has committed" (Douglas et al., 1986, p. 405). Profiling has always existed to some degree in law enforcement criminal investigation. The FBI attempted to develop and implement a more formal and systematic process for crime scene profiling that started in 1978, with the formation of the FBI's Behavioral Science Unit (BSU), which then evolved into the Profiling and Behavioral Assessment Unit (Douglas et al., 1986; Ressler, Burgess & Douglas, 1988; Geberth, 1990; Hickey, 1997; Homant & Kennedy, 1998). The method of profiling was specifically developed for cases involving serial homicide and/or serial rape. Profiling has become popular particularly in Canada, United Kingdom and the Netherlands – although there are slight differences between countries in their exact approach (Palermo & Kocsis, 2005; Dowden et al., 2007).

Usually, in cases of serial homicide, the development of behavioral profiles involves a number of key steps (Geberth, 1990; Kocsis, 2009), including: (1) survey of the crime scene and analysis of crime scene staging; (2) development of a victimology profile; (3) development of an offender profile. This process is based on the premise that an offender will leave identifying signatures and other clues at the crime scene that would aid profilers in developing a psychological and behavioral profile, which can be used in order to identify the offender (Miller, 2014b).

Organized–disorganized dichotomy

As pointed out by Reid (2017), while serial homicide offenders share several essential characteristics, their similarities tend to revolve around the observable features or patterns that characterize their homicides (e.g., body posing, staging) (see Walters et al., 2015). As a group, however, serial killers are remarkably heterogeneous. Despite fictionalized media portrayals that depict the serial killer as a white male in his 20s with above average intelligence whose crimes are sexually motivated, there is no such thing as a prototypical serial killer (Knight, 2006; Walters et al., 2015). In fact, there is so much heterogeneity among this group that efforts have been made to create descriptive classifications (or typologies) to differentiate between different types of serial homicide offenders (Reid, 2017). Arguably the most well-known, and increasingly controversial, classification scheme of serial homicide is one that was developed by the FBI's Behavioral Science Unit (BSU), which divides serial homicide offenders into two subtypes: organized and disorganized (Hazelwood & Douglas, 1980; Ressler et al., 1986; Ressler, Burgess & Douglas, 1988; Geberth & Turco, 1997; Hickey, 1997; Palermo & Kocsis, 2005).

Organized serial killer

The crime scene of the organized serial killer reflects a high level of control and planning. Because the murder is not usually carried out relatively quickly compared to the disorganized offenders, restraints are used. The body is also disposed of in a well-thought-out manner, usually to a location away from where the killing

occurred. They are typically socially competent, intelligent, live with a partner, follow the media reporting on their crimes and change locations following the crime (Schlesinger, 2009). They often have psychopathic (Cleckley, 1976; Hare, 1993), manipulative or narcissistic (Schlesinger, 1998) personalities and can be charming, take great care with their personal appearance, are physically attractive and are able to speak easily to members of the opposite sex (Schlesinger, 2009). The organized serial killer views himself as being superior compared to everyone else. They tend to carry out the killing in a location that is outwith the areas they live and work in. They are fairly mobile and frequently will travel some distance in order to commit their crimes (Miller, 2014a).

For the organized killer, fantasy and ritual are very important, and they usually have a preferred type of victim. They will often bring to the crime scene a "torture kit" that contains their tools to carry out bondage and mutilation. They may stalk their victim for hours or days or even months. Frequently used during the murder is alcohol. Usually a trophy is taken from the victim, which is used to relive the events surrounding the crime or is used as a way to heighten his fantasies. They tend to be forensically aware, taking pride and enjoyment in their attempts to hinder the criminal investigation and also taunt law enforcement by the deliberate placement or concealment of evidence. They may even taunt the police by leaving some bodies open to view. Sometimes this offender currently or previously has been employed in some sector of law enforcement or security (or they have aspired to work in such a role). They may research previous serial homicide offender cases and may even correspond with them in prison. With each crime, their predatory and elusive tactics become increasingly more developed and sophisticated (Miller, 2014a). They usually appear to be normal to others and maintain normal relationships (Hickey, 1997; Godwin, 2002).

Disorganized serial killer

The crime scene of the disorganized serial killer reflects a lack of planning and impulsivity. There is little attempt at concealment of the evidence (usually left in plain view at the death scene). A weapon of opportunity (as opposed to bringing to the scene a preferred weapon) is typically used. The victim also tends to be known to the killer (Ressler et al., 1986). They frequently have poor work histories, live alone and live close to the location that the crime took place, have little interest in the reporting of the case by the media, do not make any changes to their lifestyle after committing the crime and are significantly more mentally unstable. They may be schizoid, schizotypal, borderline and, in some instances, schizophrenic. This type of serial killer may be physically unattractive, have little or no experience with individuals who are from the opposite sex and live by themselves because others find their eccentric behavior challenging (Ressler, Burgess & Douglas, 1988; Schlesinger, 2009). They are of average or below average in intelligence. They are usually an underachiever, feel inferior both sexually and interpersonally and have a poor self-image. They are often a loner or recluse and are frequently described as

being "weird" or "creepy" by others. They frequently practice perverse sexual activities, including: voyeurism, exhibitionism, lingerie thefts, fetish burglaries, and engage in sadistic and fetishistic fantasy and pornography while they are engaging in autoerotic activities.

Unlike the organized serial killer, the disorganized serial killer's crime scenes are more impulsive, spontaneous and the victim is usually a target of opportunity. They do not have the manipulation and cunning that is found in the organized serial killer, they often carry out "blitz attacks," using blunt force trauma, in an attempt to silence the victim. The murder of the victim occurs relatively quickly after this. They are also not likely to use restraints because the murder occurs so quickly (Ressler, Burgess & Douglas, 1988). There may be overkill, such as multiple stabs and blows to the victim's body. They also depersonalize their victim by cutting and stabbing specific regions of the body. Some of the postmortem activities that they may perform on their victim's body include biting, exploratory dissection, mutilation, amputation, disembowelment, vampirism or masturbation onto the body, and there may sometimes be actual penile penetration of the body (Godwin, 2002; Miller, 2014a). Another method of depersonalization and sadism includes the insertion of foreign objects. This method of behavior is, according to the FBI, suggestive of a type of regressive necrophilia and sexual substitution as opposed to "simply" being an act of mutilation or control (Douglas et al., 1986; Ressler, Burgess & Douglas, 1988). They also show no forensic awareness and leave forensic evidence at the crime scene such as fingerprints, bloody footprints and semen.

The organized–disorganized system should be thought of more as a continuum than as a rigid dichotomy

There have been some suggestions that there are weaknesses in the organized and disorganized dichotomy (Godwin, 2002). For instance, as with the majority of classificatory systems or typologies, intermediate types are often found. Also, there are crime scenes that contain organized and disorganized features. In a case where a crime scene reflects features of both categories, it is referred to as mixed (Geberth & Turco, 1997; Hickey, 1997; Ressler et al., 1986; Ressler, Burgess & Douglas, 1988). There is increasing support for viewing the organized–disorganized system as being on a continuum as opposed to being a rigid dichotomy and that this information should be used as one set of data and complemented with other information that is collected during the investigation (Palermo & Kocsis, 2005; Hicks & Sales, 2006; Schlesinger et al., 2010; Miller, 2014a). Moreover, no explanation is provided in the literature of the differences between the organized and disorganized serial homicide offender. The organized and disorganized dichotomy appears to describe the different levels of aggression in serial homicide offenders. However, there exists no literature that supports this (Godwin, 2002).

Other typologies

There are also a number of other typologies such as (1) thrill motivated killers, murders for profit and family slayings (Levin & Fox, 1985) and (2) traveling serial killers, local serial killers and place specific serial killers (Hickey, 2002). Further, Holmes and Holmes (1996) classified serial homicide offenders into four types:

1. **Visionary serial murderers:** These are murderers whose impetus to kill is propelled by voices they hear or visions they see. An example of this type of killer would be David Richard Berkowitz, also known as the Son of Sam and the .44 Caliber Killer.
2. **Mission serial murderers:** This type of murderer is driven to kill based on the conscious need to eradicate a particular group of people (e.g., prostitutes, people who find themselves homeless).
3. **Hedonistic serial murderers:** This type of murderer is referred to as a lust or thrill murderer, and their crimes have sexual overtones to them.
4. **Power/control serial murderers:** These murderers are driven by a need for sexual gratification and the complete domination of their victims.

Also, Keppel and Walter (1999) proposed a theoretical classification that could be used in order to profile sexual murderers' motivations, namely, the power-assertive rape-murderer, the power-reassurance rape-murder, the anger-retaliatory and the anger-excitation rape-murderer. Details of each of these four types of sexual murderers are outlined below.

1. **Power-assertive (PA) rape murderer:** The PA rape-murderers believe themselves to be superior to other people and want to demonstrate this superiority to their victims. They do so by the use of an assertive image and dominating violence. They do not plan to murder their victim but the increasing level of aggression that is required in order to control the victim eventually leads to her death. The crime scene will be organized in an attempt to conceal their identity. Despite their concealment of their crimes in order to avoid apprehension, they still have a desire for recognition for what they have done and this need for recognition may become so powerful and uncontrollable that they confide their crimes with another person.
2. **Power-reassurance rape murderer:** The PR rape murderer wants to assure himself that he is powerful and has complete control over the victim as well as the situation. They only plan to rape the victim. The murder takes place only when the PR rape murderer comes to the realization that reality does not match their fantasy. Frequently, the rape "fails" as a result of their impotence. At which point, he may need to reassure himself of his power and control and may kill the victim in order to achieve this feeling of power and control again, usually by the means of manual strangulation or pummeling. They tend to leave a disorganized crime scene and the duration between their crimes can vary. Their crimes often tend to take place in clusters.

3. **Anger-retaliatory rape murderer:** The AR rape-murderer plans to commit the rape and the murder. The murders are carried out for purposes of retaliation. They are getting revenge on women as a result of their poor relationships with women in the past. The sexual assault is extremely violent in nature and the murder shows overkill. They may not complete the rape of their victim as a result of being unable to achieve a state of sexual arousal (an erection). As a result of this failure, they will frequently take out their anger on the victim with their fists, a blunt object or a knife. They will continue with the assault until they are emotionally satisfied irrespective of whether the victim is alive or not. This type will position the body into a submissive pose and will leave a crime scene that is disorganized.
4. **Anger-excitation rape murderer:** The AE rape-murderer has the intention to commit both the sexual assault and the murder before carrying out the crime. The sexual assault and murder are planned in order to inflict pain, suffering and terror on the victim for personal gratification and sexual pleasure. They engage in sadistic acts that are precipitated by fantasies that are highly specialized (Keppel & Walter, 1999; Godwin, 2002). They tend to leave an organized crime scene and often attempt to conceal the body by transporting it to a different location from where the murder took place. They usually carry out their crimes in areas which are out with the locations where they conduct their typical daily activities. However, they may try to interject themselves into the criminal investigation (Keppel & Walter, 1999; Bennell et al., 2013).

As emphasized by Reid (2017), the typologies are not exhaustive. There are a range of types of serial homicide offenders that are not represented accurately by the existing typologies (Walters et al., 2015). There is a significant amount of overlap between the typologies, they are not mutually exclusive (Walters et al., 2015). There is also no empirical support for the typologies. They only have limited reliability and validity (Busch & Cavanaugh, 1986; Godwin, 2002). These types of limitations led Reid (2017) to suggest that it is too premature to try and connect etiological theories to serial killer typologies. However, what Reid is not suggesting is that typologies are not useful, but that their usefulness is currently limited to law enforcement as they do not stand up to scientific scrutiny at present (Reid, 2017).

Signatures

When acting out their fantasies, serial homicide offenders can leave their unique and idiosyncratic signature on the victims' bodies or at the crime scene. These signatures are frequently considered to be useful clues when profiling crimes that are serial. These signatures may be particular patterns of attack and also forms of bondage and torture, such as piquerism (piquerism is the act of achieving sexual pleasure from penetrating the body with sharp objects, such as pins, nails, stilettos, etc. The sharp object is viewed as being symbolic of the penis. Serial homicide offender, Albert Fish, suffered from piquerism. He enjoyed sticking long needles

into his groin area and being spanked with a board that had long nails attached to it), type of killing, postmortem body positioning, dress or undress, postmortem mutilation or dismemberment (necrosadism) and trophy-taking. What is indicated by the evidence is that such signatures do not always remain the same for any single serial homicide offender. Specific patterns of attack and crime scene characteristics are not always consistent in the same offender over time (Schlesinger et al., 2010).

Multiple homicide in autism and Asperger's Disorder

Silva, Leong and Ferrari (2004) have suggested that there may be an association between autism spectrum disorder (ASD) and serial homicidal behavior, which has been an association also proposed by a number of other academics and/or clinicians (e.g., Fitzgerald, 2001). ASDs are neurodevelopmental disorders characterized by reciprocal social interaction and communication impairments and restricted repetitive behaviors (Wing, 1997). *The Diagnostic Statistical Manual* fifth edition's (DSM-5, American Psychiatric Association, APA, 2013) now categorizes two key domains of impairment in ASD (it was previously three key domains of impairment), which vary across individuals, symptoms and levels of severity: (1) "persistent deficits in social communication and social interaction" and (2) "restricted, repetitive patterns of behavior, interests, or activities" (APA, 2013). The criteria for ASD in the DSM-5 is different in a variety of ways from the previous criteria that was outlined in *The Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition-Text Revision (American Psychiatric Association, APA, 2000). The DSM-5 no longer makes the distinction between the subtypes of ASD (autistic disorder and Asperger's Disorder, etc) – there is now just one single category of ASD. All three items in the social communication domain are now needed to fulfill the diagnostic criteria (Maenner et al., 2014). It was estimated by Brugha and colleagues (2011) that the prevalence of adults with ASD living in the community in England was 9.8 per 1000.

There is a very small subgroup of individuals with ASD who perpetrate extreme violent acts. It is not ASD by itself that propels these individuals to commit extreme acts of violence. It is the presence of other factors together with ASD that are necessary including, for example, adverse childhood experiences, head injury, psychiatric comorbidities, etc (Allely et al., 2014). Silva, Leong and Ferrari (2004) have indicated that there may be a possible association between ASD and serial homicide. Earlier studies carried out by Silva and colleagues have also made the suggestion that, in a small subgroup of serial homicide offenders, there exists a close association between autism spectrum psychopathology and violent behavior (e.g., Silva, Ferrari & Leong, 2002a; Silva, Ferrari & Leong, 2003). They suggest that there may be some behavioral characteristics that are associated with ASD that may contribute to the development of some serial homicide offenders. Furthermore, Silva and colleagues emphasize the high heritability of ASD (e.g., Santangelo & Folstein, 1999; Sandin et al., 2014; Tick et al., 2016) and well-established neuropsychiatric features of ASD (Povinelli & Preuss, 1995; Schultz, Romanski &

Tsatsanis, 2000) give some support to the theory of "the possibility that autistic psychopathology may represent a complex set of biological markers of value in the study of sexual serial homicide" (Silva, Leong & Ferrari, 2004, p. 788).

Sexual deviancy and fantasies in serial homicide offenders: the mechanism from imagination to the murder phases

At some point during their developing pathology, many serial homicide offenders escaped into a fantasy world that led them down the pathway to "murderous obsession." In order to facilitate this process, they may use pornography or detective magazines (Giannangelo, 1996, 2012). The majority of authorities are in agreement that serial sexual homicide offenders act out an intense fantasy relationship with their victims (Geberth & Turco, 1997; Johnson & Becker, 1997; Langevin, 2003; LaBrode, 2007; Chan & Heide, 2009; Schlesinger et al., 2010; Miller, 2014a). Sadistic serial homicide offenders usually have very elaborate and detailed fantasies, which include themes of abuse, control and dominance (Skrapec, 2001). Many view fantasy as being the underlying basis for serial homicide offending (e.g., Ressler, Burgess & Douglas, 1988). As pointed out by Arrigo and Purcell (2001), fantasy plays a significant role in facilitating the paraphilic process. The individual becomes so immersed in their fantasies that they become increasingly disconnected from reality. They have full control over their sexual and sadistic fantasies. Examination of the fantasy systems of lust murderers reveals that they appear to associate sex with aggression (e.g., Hazelwood & Douglas, 1980; Liebert, 1985). Their fantasies typically include themes of power, domination, exploitation, revenge, molestation and also the degradation and humiliation of others (Arrigo & Purcell, 2001). The forensic literature has largely focused on the paraphilic fantasy as being the practice run for solitary rape–murder and serial sexual homicide (Prentky et al., 1989; Schlesinger, 2000). It is suggested that the fantasies act as a cognitive rehearsal for sexual homicide (Stein, 2004; Silva, Leong & Ferrari, 2004; Scott, 1996). The crime scenes often reflect aspects of the serial homicide offender's fantasies (e.g., body position) (Ressler, Burgess & Douglas,1988).

According to the FBI, the fantasy world becomes so real to the individual, that they believe they can move between fantasy and reality. Homicide becomes the natural extension of the serial homicide offender's rich fantasy life (Brown, 1991). By acting out the fantasy it becomes linked with the real world, and according to the mind of the serial homicide offender, the fantasy is now a reality (FBI, 1985; Malizia, 2017). There is controversy as to whether or not a preoccupation with sadistic or controlling sexual fantasies is rooted in dissociative trauma (Carlisle, 2000; Meloy, 1997; Stein, 2004). However, Ressler and Shachtman (1992) believe that sexual violence is the result of an overreliance on sexual and aggressive fantasies that are developed in response to threats (only some of which may involve child maltreatment).

Paraphilias

Paraphilias (which are also referred to as sexually aberrant or deviant behaviors) are typically related to crimes of a sexual nature (Hickey, 1997). Hundreds of different types of paraphilias exist. Paraphilias are viewed as being intrinsically bizarre by most people. On the most extreme end of the continuum of paraphilic behaviors is erotophonophilia, which is commonly referred to as lust murder (Arrigo & Purcell, 2001). Erotophonophilia refers to the act of a brutal and sadistic homicide in order to achieve the ultimate sexual gratification (e.g., Hazelwood & Douglas, 1980; Holmes, 1991). Lust murderers are serial in disposition and they are likely to repeat their offenses. A key feature of this paraphilia is mutilation of the body, particularly of the genitals (Hickey, 1997; Money, 1990; Arrigo & Purcell, 2001).

Some of the characteristic behaviors of serial homicide offenders may include one or more paraphilias, for example, fetishism (having a sexual preoccupation with body parts, inanimate objects or bizarre activities); transvestism (dressing in the opposite sex's clothing); exhibitionism (public sexual displays) and voyeurism (surreptitious watching of others' sexual activity) (Myers et al., 2006; Kerr, Beech & Murphy, 2013; Miller, 2014a). Another common fetish is the tendency for many serial homicide offenders to blindfold their victims. Sometimes this may be to heighten the terror in the victim and as a means to further dehumanization of the victim by avoiding eye contact. Enucleation, which is the act of gouging out of the eyes either premortem or postmortem, is a common signature practice of serial homicide offenders. This is often done for similar reasons to the act of blindfolding (Miller, 2014a).

Necrophilia

Some serial homicide offenders engage in necrophilia (sex with a cadaver), some preserve the body, or parts of it, for later use, or go back to the concealed crime scene to have repeated sexual contact with the decomposing cadaver (LaBrode, 2007; Stein, Schlesinger & Pinizzotto, 2010). Professor of Forensic Medicine, Anil Aggrawal, developed a classification system that attempted to put all different forms of necrophilia under ten different classes, including: Role Players (these are individuals who enjoy sex with a person who is alive but is pretending to be dead. They do not want to have sex with a dead body); Romantic Necrophiles (these are individuals who are bereaved and engage in the mummification of part of the body of someone they loved who recently passed away. They engage in this behavior only with someone they were previously romantically involved with, not just any person who had passed away); Necrophilic Fantasizers (these are individuals who fantasize about engaging in sexual intercourse with a dead body. Individuals in this class may also go to cemeteries and funeral homes/parlors and may engage in masturbation in the presence of the dead body); Tactile Necrophiles (individuals in this class have an interest in dead bodies and will engage in touching the dead bodies. Individuals in this class also engage in stroking erotic parts of the dead body (e.g., the breasts).

They may also try and obtain an orgasm by manipulating the sexual organs of the dead body); Fetishistic Necrophiles (individuals that fall into this class will cut up parts of a dead body (for instance, a breast). They will then mummify this body part and use it for fetishistic purposes during their necrophilic sessions. Individuals in this class are different from those that fall into the "Romantic Necrophiles" class because they mummify parts of a body of strangers whom they have no romantic involvement with. Therefore, the purpose of this participant type of necrophilia is not to fill a psychosexual space where the loved one previously occupied); Necromutilomaniacs (individuals in this class have an interest in dead bodies beyond simply touching or stroking them. Instead, they get sexual gratification from mutilating the dead body); Opportunistic Necrophiles are typically individuals who are content to have sexual intercourse with a living person. However, if the opportunity presents itself, they would engage in sexual intercourse with a dead body. Individuals who come into this category include necrophilic mortuary attendants); Regular Necrophiles (these are individuals who are considered to be the "classic" necrophiles. They prefer dead bodies over living bodies to have sexual intercourse with. They do not enjoy sexual intercourse with living bodies but will still engage in this activity); Homicidal Necrophiles (individuals in this category are, according to Aggrawal, the most dangerous of all of the classes. Their need for sexual intercourse is so great that they will kill someone to engage in this act. They are able to have sexual intercourse with a living person) and Exclusive Necrophiles (individuals in this class can only have sex with dead bodies. They do not engage in sexual intercourse with living people) (Aggrawal, 2009).

Autoerotic asphyxiation and its co-occurrence with sexual deviant interests

Autoerotic asphyxiation is when the individual induces cerebral hypoxia (decreased oxygen supply to the brain) in themselves, usually by the means of strangulation or suffocation, and they often engage in masturbation at the same time. Numerous methods are used by practitioners in order to deprive themselves of oxygen (e.g., hanging, ligatures placed around the neck, plastic bags put over the head, suffocating masks, chest compression and the replacement of oxygen with other substances such as gas or chemicals) (Hazelwood, Dietz & Burgess, 1983; see Myers et al., 2008). The hypoxic state causes the sexual pleasure and orgasm to be heightened (Resnick, 1972). However, there is a very fine line between hypoxic euphoria and unconsciousness followed by death. Of all the paraphilias, autoerotic asphyxiation is believed to be the most dangerous for the practitioner (Uva, 1995). A number of studies have found that autoerotic asphyxiation co-occurs frequently with other sexual interests considered to be deviant. Some examples of the more frequently associated paraphilias include: masochism, transvestic fetishism or cross-dressing (e.g., Janssen et al., 2005; Koops et al., 2005). Indeed, there is evidence of transvestic fetishism in approximately 20–25% of autoerotic asphyxiation death scenes (Hazelwood, Dietz & Burgess, 1983; Breitmeier et al., 2003; Shields,

Hunsaker & Hunsaker III, 2005). Another paraphilia that has been found to be commonly associated with autoerotic asphyxiation is bondage fetishism (Blanchard & Hucker, 1991, see Myers et al., 2008).

Case study – Jeffrey Dahmer

Between 1978 and 1991, Jeffrey Dahmer murdered 17 men and boys, with the majority of these murders taking place between 1987 and 1991. His murders involved rape, dismemberment, necrophilia and cannibalism. He also made crude attempts to lobotomize some of his victims. He drilled holes in their skulls and injected muriatic acid into their brains (Bennett, 1993). Dahmer tried to create "zombies" out of some of his victims. He wanted to create helpless obedient zombies that would never leave him. While most died immediately following the procedure, it was alleged that one victim walked around for nearly two days after it (Schwartz, 1992; Strubel, 2007). When he was arrested, some remains of 11 of his victims were found around his small apartment (Jentzen et al., 1994; Nichols, 2006). Medical examiner personnel recovered a number of body parts, which included seven human skulls (three of which were painted), four human heads and one dissected postcranial skeleton from a portable freezer and three skeletonized bodies, which were in a 55-gallon (209-L) plastic storage drum (Jentzen et al., 1994).

Dahmer's apartment at the time of his arrest

As trophies, Dahmer also preserved the genitals and other body parts of his victims in formaldehyde. In the refrigerator there was a cardboard box that contained the head of a victim in the early stages of decomposition. In the portable chest freezer, there were a number of plastic bags that concealed three decapitated heads and a disarticulated, dissected, partially skeletonized torso with the extremities attached. There was a plastic bag that contained 31 sections of skin and soft tissue (with a total weight of 3480g), which consisted of fatty tissue, skeletal muscle and facial and fibrous tissue. The pieces of skin and soft tissue were irregularly shaped but were "somewhat square." In the freezer compartment of the refrigerator there was a human heart, which had been sectioned into three parts, and a ziplock plastic bag that contained a large muscle mass. In the closet there were containers of chloroform and formaldehyde and two cleaned human skulls. The desiccated hands and genitalia of one victim was found in a large stainless-steel cooking-style pot in the closet. The bedroom contained a bloodied mattress (there was a knife hidden under the bed) and a Polaroid camera, which was bloodstained. In a two-drawer file cabinet there were three skulls that Dahmer had spray painted with a gray "granite-like texture" paint. In the lower drawer, there was a cleaned skeleton with the scalp and hair still intact and desiccated genitalia that Dahmer had painted in a Caucasian flesh tone. In a small adjacent cardboard computer box two more skulls were recovered, which Dahmer had cleaned and preserved.

A photo album "photographic diary" was also found in the cardboard computer box. This "photographic diary" contained a large number of photographs that Dahmer had taken of many of his victims. All these photographs were neatly displayed and catalogued in this "photographic diary" (Jentzen et al., 1994). Prior to engaging in the dismemberment of his victims, Dahmer would cut them open so that he could take pictures of the inside of the body using his Polaroid camera. Sometimes he would wait until rigor mortis had set in so that he could prop the victim's body up against a wall, for example, so that it looked as if it was standing up in the photographs (Arrigo & Purcell, 2001). Dahmer would also take pictures of his victims while they were alive. In these pictures, they would assume a range of sexual positions. For bondage photos the victims would be wearing handcuffs (Schwartz, 1992).

A large number of Polaroid photographs of Dahmer's victims in different stages of dissection and dismemberment were found around the apartment as well as in the cardboard computer box (Jentzen et al., 1994). Dahmer would masturbate while looking at the skulls and the photographs he had taken of his victims. Dr Park Dietz stated in court that Dahmer masturbated while holding or looking at the skulls of his victims, etc, because "It facilitated the fantasy of the entire person, the fantasy of the living person to whom the head had belonged, which cut out awareness that the rest of the body was missing and the head was severed" (Masters, 1993a, p. 263). In his locker at the Ambrosia Chocolate factory where he worked, he kept the head of one of his victims (Strubel, 2007). One picture revealed the head of one victim in the sink, which still had the flesh intact. Another picture showed one of his victims cut open from the neck all the way down to the groin. The pelvic bone could clearly be seen in the picture. He informed the police that, when he cut open one of his victims, he was particularly aroused by the heat that would emanate from it (Schwartz, 1992). There was also a photograph of a bleached skeleton that Dahmer had hung in his closet. The bleached skeleton still had perfectly intact flesh on the head, hands and feet, which jutted out from the bleached bones (Schwartz, 1992). In the photos taken of his victims before they were dismembered, Dahmer had carefully positioned them on the shiny black table in such a way that emphasized the chest or the belly. All of the victims in the photos are stretched out. In some of the photos the chest thrust forward and it is obvious from the photos that Dahmer spent some time carefully positioning the body in this way. In another photo, the head can be seen at the bottom of the photograph with the chest spread out at the center and ends with the pubic hair at the top of the photo. The legs can be seen hanging off the table outwith the camera's range (Masters, 1993).

Photographs of some of his victims taken in the bathtub also indicate that Dahmer had spent some time carefully positioning their bodies to his satisfaction. One victim had been carefully placed over the edge of the bathtub with the head and outstretched arms outside of the tub and the lower part of the torso sitting cross-legged in the tub. In this photograph, due to the positioning of the victim, the chest area is markedly pronounced – the clear focal point of interest in the

photo. For Dahmer, the chest area was a primary source of fetishistic excitement. In one photograph taken by Dahmer, the mouth of one of his victims is open which Dahmer confesses he did so that he would be able to insert his penis into it. When his victims were alive, he would place the side of his head onto the victim's belly so that he could hear the sounds that were made. This was something that fascinated Dahmer. The belly was his second area of sexual interest after the chest area.

In one photograph taken by Dahmer, the victim is shown cut open revealing the organs from the neck all the way down to the groin area. When he was asked why he did this, Dahmer said, 'I wanted to see what someone looked like inside' (Masters, 1993, p. 159). Examination of Dahmer's actions when he opened up a body shows that it was more than just interest in seeing what someone looked like inside. Dahmer described how he would insert his hands into the viscera (e.g., the intestines) and feel them. Sometimes the viscera would still be warm, which excited him. He would lower himself on to the open body and have intercourse with the viscera. If there was not enough space in his bathroom to enable him to do this, he would resort to taking the intestines out of the body cavity and rubbing them on his penis. In other words, he would sometimes use the organs and intestines of his victims as a masturbatory aid (Masters, 1993). He would also masturbate into the skulls of some of his victims. Silva and colleagues (2002a) have highlighted that it appears that Dahmer was unable to achieve sufficient sexual satisfaction with a mannequin (which he stole from a store and kept in his room when he lived with his grandmother) and still continued to kill despite having a large collection of body parts. They argue that this would indicate that Dahmer was only able to partially obtain sexual gratification with non-living human objects (Silva, Ferrari & Leong, 2002a).

Dahmer would keep his dead victims lying naked around his apartment. He would sodomize them at will and, when he did, he would always protect himself using condoms. He would keep the bodies of his victims in the bathtub until he had the time to dismember them. He would frequently take showers with his victim's bodies (Schwartz, 1992; Strubel, 2007). He was unable to get an erection when his partner was conscious. He could only attain an erection when his partner was unconscious. He did not want anyone to penetrate him anally and if his partner was unconscious then they could not engage in this with him. He wanted to be the one in complete control (Schwartz, 1992, p. 198).

Dahmer was known to have eaten a range of body parts of his victims, although it is uncertain how many men he cannibalized (a practice known as anthropophagy). A "diversity" of human meat was found by police in his refrigerator, as well as a frozen heart in the freezer for him "to eat later." When he was arrested, Dahmer confessed that he was making human "meat patties." Dahmer confessed to flaying his victim's body, removing the flesh and consuming the biceps, which he thought were particularly succulent. Dahmer was not forthcoming with the full extent of his cannibalistic behaviors during his trial. However, he did confess to having cannibalized at least three of his victims (Martingale, 2001; Shemtob, n.d.). He also

described the experience of cannibalizing his victims as being sexually exhilarating (Ressler & Shachtman, 1997).

With one of his victims, Dahmer tried to preserve the skin of the whole body. Using a small, sharp paring knife, he made an incision at the back of the victim's neck and then sliced all the way up to the crown. He then pulled the skin on either side of the cut he made. He said that, with care, he was able to peel away the outer layer of skin from the muscle tissue and the entire process took him two hours. Dahmer informed the police how the skin:

> would completely pull right off the skull of the individual. He related that the only time he needed to do any real cutting would be around the facial features, that being the eyes, nose, lips and mouth. He related that the entire skull portion of the skin came off in one complete piece and while it was off it actually looked somewhat like a mask you can buy at a party store.
>
> *(Masters, 1993, p. 158)*

In order to preserve it for his shrine, Dahmer put the skin of the entire body in a solution of cold water and salt. However, he failed in his attempt to preserve the skin as after three weeks the skin was starting to disintegrate badly. He then reluctantly had to dispose of the skin by manually breaking it into smaller parts and flushing them down the lavatory. With the flayed body, he laid it on a plastic sheet on his bedroom floor and took photographs of it. For Dahmer, the flayed body was an object of beauty. He was not repulsed by it. Dahmer had explored the possibility of purchasing a freeze-drying machine in order to try and preserve his victims. However, to get one large enough would have been far too costly. He also did not consider embalming the bodies because this process does eventually result in decay. He had also considered putting an electric wire into a hole in a victim while they were still alive and plugging the other end into the socket in order to see if an electric charge would keep him going (Masters, 1993).

The temple and film scenes of psychological significance to Dahmer

Dr Park Dietz examined Dahmer. Dr Dietz is a forensic psychiatrist who has consulted or testified in many of the highest profile US criminal cases including Joel Rifkin, Arthur Shawcross, Jeffrey Dahmer, The Unabomber, Richard Kuklinski, the Beltway sniper attacks and Jared Lee Loughner. Dahmer described to Dr Dietz the plans that he had for a temple that he wanted to build for most of the 11 victims' skulls that he kept, with plans to paint them. Dr Dietz told the jury that Mr Dahmer drew for him a diagram of what he had in mind or planned for a temple. The diagram of the temple depicted 10 skulls laid out in a row on a shiny black table [art deco in style], which had incense burning on both ends, and two entire skeletons that stood on either end of the black table. His diagram of the temple also included plaster griffins above the black table together with a special globe lamp in order to create an eerie sense of lighting. Dahmer also told Dr Dietz that he wanted

a black leather chair so that he could sit in the leather chair and admire his temple. He believed that if he created the temple in this way, he would be able to get in touch with some spiritual force or power. Dahmer claimed to Dr Dietz that the temple he created (if arranged correctly) would enable him to channel supernatural powers (Schwartz, 1992). However, some have argued that the temple seems more erotic than supernatural. Nichols (2006) has suggested that it may have helped Dahmer to maintain a connection to his victims, remembering the time they had shared together. They would always be with him – he did not have to fear that they would leave him. He stated that, it was "a place where I could feel at home" (Masters, 1993a, p. 286). Nevertheless, Dahmer did have an interest in occult beliefs and culture. He also favored heavy metal music and horror movies (Schwartz, 1992; Nichols, 2006). Dr Dietz stated in court that Dahmer's plans for the temple and his ideas surrounding it were not delusional in nature because he did not really believe that he would be able to channel supernatural powers. Instead, the ideas surrounding the temple were superstitious beliefs rather than delusional thinking (Masters, 1993).

Dahmer informed Dr Dietz that he had started thinking about the temple when he was watching the film *Star Wars: Return of the Jedi*. Scenes from this film became significant to him. Later, scenes from the film *Exorcist III* also became significant to him. Dr Dietz watched with Dahmer some of his favorite films, specifically *Star Wars: Return of the Jedi* and *The Exorcist III*, as well as gay pornography. While they both watched the films, they discussed why certain scenes were of significant interest to Dahmer. Dr Dietz learned that Dahmer revered one character in each of these films, the Emperor in Star Wars and the character who is supposed to be Satan (a man who is confined in a cell-like area) in the Exorcist. What both of these characters have in common is that they are both evil, corrupt and powerful. They also both have the ability to use special powers in order to control others. The Emperor had the power to zap people with energy beams of some kind and manipulate others. In the *Exorcist III*, the character who is supposed to be Satan has the power to create illusions and mentally move objects. For instance, to make people think that there are snakes crawling all over them, to suspend people on the ceiling and a whole range of things of this nature. Dahmer watched the Exorcist film with his last victim, who managed to escape, Tracy Edwards. Edwards reported in court that, during the film, Dahmer began to rock back and forth and was muttering (Masters, 1993).

For Dahmer, it was the scenes in these two films where these two evil characters were controlling or manipulating others, etc that he found most significant. Each of the characters in the scenes that he repeatedly viewed actually torments someone else in a way that might be considered to be torture. However, Dahmer said to Dr Dietz that it was not the torture of the individuals in the films that was appealing to him. He explained to Dr Dietz that making others suffer was not his desire sexually. However, what he did identify with was the power that each of these two characters had. What is interesting is that both of these two characters are considered to be unattractive ones. They are not ones that you would typically expect one would want to identify with. Rather, he liked the idea of the power that they both had.

Dr Dietz also pointed out during the trial that both of these characters that Dahmer identified with are portrayed in the films with yellow eyes, which gave them an eerie look. In order to achieve this look, Dahmer bought contact lenses that had that a yellow tint so he could have more of that particular look. He would wear the contact lenses when he went to the clubs. Dr Dietz also noted that Dahmer's significant interest with these films was not just ordinary curiosity. It was far more than that. He wanted to be more like the characters in the films and he describes how he would watch the films to get himself in the proper mood to go out and cruise for a potential victim. He would also sometimes bring his victims back to his apartment and would watch with them portions of the films and direct their attention to the particular scenes he found significant. [One of his victims who managed to escape also reported that Dahmer would rock back and forth chanting to some parts of the films]. The films, therefore, did contribute to some degree in setting the right mood for him to carry out his crimes. He explains that the reason he identified with the two evil and corrupt characters was because he felt he was equally as evil and corrupt.

Similarities in the external phenotype of his victims

There has been some suggestion that Dahmer had selected the majority of his victims very carefully based of their external phenotype. Bennet (1993) carried out a study in order to investigate this theory. Despite the small sample size, the analysis suggested the possibility that Dahmer's choice of victims was significantly influenced by craniofacial architecture as there was marked similarity in the craniofacial architecture across all of his victims (Bennett, 1993).

Offending history

Dahmer had a previous offending history. He had been arrested on a number of occasions for exposing himself to children or molesting them. He had managed to avoid capture after a number of similar incidents. It is useful to point out here that all of Dahmer's adult victims were young and boyish (Schwartz, 1992; Nichols, 2006; Strubel, 2007). It has been suggested that his exhibitionism may be an outgrowth of his pedophilia (APA, 2000, see Strubel, 2007), evidence of his markedly impaired social skills and social judgment, or comprising features of both. He was charged with drunk and disorderly conduct after he exposed himself to a crowd of people where there were also children in August 1982. Approximately four years after this, he was arrested for lewd and lascivious behavior after he engaged in an act of masturbation in front of two 12-year-old boys. When he was arrested, he confessed that he had masturbated in public on approximately five previous occasions. His charges were reduced to disorderly conduct and he was given a sentence of probation for one year and was ordered to get therapy (Schwartz, 1992). The therapy sessions "came to an end without any worthwhile insights being achieved" (Masters, 1993, p. 105). In addition to the therapy, Dahmer was sent for

a psychological evaluation at the Clinical Psychology Department at the University of Wisconsin. Kathy Boese concluded in her report following her evaluation of Dahmer that he, "could become a psychopathic deviate (sociopath) with schizoid tendencies. His deviant behaviour will at least continue in some form if not exacerbated.… Without some type of intervention which is supportive, his defences will probably be inadequate and he could gravitate toward further substance abuse with possible subsequent increased masochism or sadistic tendencies and behaviours" (see Masters, 1993, p. 107).

Psychosocial stressors

On May 21, 1960, Dahmer was born to Lionel Dahmer and his wife, Joyce Dahmer. He grew up in a small Ohio town in the United States. His father was a chemical engineer with a Ph.D. in chemistry. Dahmer experienced some psychosocial stressors during childhood. When he was five years of age, his brother David was born. His mother experienced recurrent depression, suicidal ideation and was very self-involved. His father was involved in his doctorate activities, which meant that he was often away. Dahmer also had to share the sparse attention of his parents with his brother. When he was a child, Dahmer was shy but also exhibited impulsive and angry behavior (tantrums) (Masters, 1993; Palermo, 2004). Dahmer's family made three domicile moves when he was aged between six and eight years. Other children thought he was odd and bizarre and he was socially isolated (Egger, 1998; Martens & Palermo, 2005).

His parent engaged in frequent quarrels (Palermo, 2008). Additionally, Dahmer underwent surgery to repair a double hernia, two months before his fourth birthday. This proved to be a particularly traumatic experience for the young Dahmer as he thought that he had had his penis removed – given the location of the pain following the surgery (Palermo & Bogaerts, 2015). It may be that common childhood phobias and fears (Muris et al., 2000), when coupled with his imagination and his fear that his penis had been removed following his surgery, may have contributed to his future relationship with male anatomy (Palermo & Bogaerts, 2015). When he was 10 years old, Dahmer believed that he was to blame for his mother's mental health disorders (depression and suicidal ideation) – he was the sole reason for all her suffering (Martens, 2011). It was also reported by Dahmer's father that, when he was eight years of age, he had been sexually abused by a neighbor. Dahmer denies being sexually abused (Dahmer, 1994; Dvorchak & Holewa, 1991). Lastly, when he was in military service, he consumed alcohol frequently and was eventually discharged from the army as a result of his alcohol-associated difficulties in occupational performance. When he consumed alcohol, it is reported that he had a tendency to become belligerent and his homicidal behavior usually took place in the context of alcohol use (Dvorchak & Holewa, 1991; Silva, Ferrari & Leong, 2002a). Dahmer exhibited a long history of instrumental use of alcohol (Strubel, 2007).

Loneliness

Dahmer was a lonely man (Martens & Palermo, 2005). His impaired social skill may have contributed to his loneliness. Loneliness itself has been found to be related to aggression (Schinka et al., 2013). His difficult family environment and the bullying he experienced at school may also have contributed to his loneliness (Segrin et al., 2012). As an adolescent he was envious of other boys and would engage in fantasies where he killed them (Palermo, 2004). Over time, his early aggressive fantasies may have later transformed into his homicidal and sadistic behavior (Smith, Fischer & Watson, 2009).

Dahmer began to experience his feelings of loneliness at around the age of five years. This began with his parents' relative neglect, their troubled marriage (where there were frequent quarrels between his parents), his mother's mental health disorders and frequent moves. The severe social isolation that he experienced would have had a negative impact on his social-emotional interaction skill development. When he was ten years of age, he started to regard himself as an outcast and he began to have fantasies that were self-destructive in nature (Martens & Palermo, 2005). When he was in high school, his peers thought he was strange and nobody wanted to be associated with him. He played the clarinet and tennis, wrote for the school paper and achieved good grades. Nevertheless, he was unpopular and was still fascinated with dead animals (Schwartz, 1992). He was extremely shy around girls, but towards authority figures he displayed aggression. He craved attention and would engage in a range of odd and bizarre behaviors in order to get it. For instance, he would seek attention by faking epileptic fits when he was in the classroom and at the mall. On a number of occasions while he was at school, he also drew the outlines of non-existent bodies on the floors in order to create a fake murder scene (Egger, 1998; Martens & Palermo, 2005).

When he was 14 years old, he started to abuse alcohol in an attempt to cope with his increasing feelings of despair over his isolation and to control his compulsive, violent, sexual thoughts (which frightened him) that were associated with his social-emotional frustrations. He began experiencing his first necrophilic fantasies when he was 15 years old and he became aware of his homosexual feelings. After the age of 17, Dahmer's violent sexual and necrophilic fantasies were characterized by lust as well as a desire for complete control over someone. It has been suggested that this may have been his defense against a reality that was unbearably lonely (Martens & Palermo, 2005). During his confession, Dahmer explained that he would kill his victims so they could not abandon him (Schwartz, 1992).

Clinical presentation

Personality Disorder Not Otherwise Specified (PD-NOS)

Silva and colleagues (2002a) were not able to interview Dahmer themselves but they reviewed extensive psychiatric, social and criminological information, including

videotaped interview information with him by others. Based on their analysis of this range of sources, Silva and colleagues (2002) gave him a rating of 22 on the Hare's Psychopathy Checklist (Hare, 1991). A score of 22 is below the cut-off score of 30 but is still considered above the average. A score of 22 would not likely qualify him as a psychopath. Based on the resources that were available to them they also diagnosed ("distance diagnosed") him with "Personality Disorder Not Otherwise Specified, [PD-NOS] with Schizoid, Antisocial, and Schizotypal Traits" (Silva et al., 2002a, p. 1355). This diagnostic conclusion, although reached through "distance diagnosing," which has obvious potential limitations, was also consistent with that of other diagnosticians who have noted Dahmer's antisocial behaviors, but who were all in agreement that he did not fulfill the diagnostic criteria for a diagnosis of antisocial personality disorder (Berlin, 1994). Dahmer did not exhibit any of the "inflated self-appraisal and superficial charm" (APA, 2000, p. 703) of the most severely antisocial types. Strubel (2007) also agreed that PD-NOS was the most appropriate diagnosis for him. Identifying that Dahmer experienced a significant level of psychopathy is important given that a high level of psychopathy as well as antisocial personality disorder pathology are well-known risk factors for committing violence (Hare, 1993; Hart, Hare & Forth, 1994; Widiger & Trull, 1994).

Necrophilia

Necrophilia involves various degrees of sexual activities and/or interests associated with deceased bodies (American Psychiatric Association, 2000). When Dahmer reached adolescence, he had developed compulsive masturbation. Regarding his psychosexual history, when he was an adult, he had exposed himself in a sexual manner to a group of adults and children and had reportedly masturbated in public, an act which subsequently led to him being involved in the criminal justice system (Dvorchak & Holewa, 1991; Norris, 1992). Dahmer's repeated engagement in sexual intercourse as well as other types of sexual behaviors with the cadavers of his victims led a number of mental health professionals to diagnose him with necrophilia (Schwartz, 1992; Berlin, 1994; Davis, 1995). This was not an opinion of all professionals who evaluated Dahmer. Forensic psychiatrist Phillip J. Resnick, who evaluated Dahmer for the prosecution, was of the opinion that Dahmer had a preference for live sexual partners and therefore did not have primary necrophilia (Rosman & Resnick, 1989).

Interestingly, the defense expert Carl M. Wahlstrom, M.D., stated that Dahmer had to consume alcohol in order to facilitate the murders he perpetrated. The reason for this was that he did not achieve any form of enjoyment from murdering any his victims (Schwartz, 1992). As a necrophile, he did achieve enjoyment from dismembering the cadavers and collecting the body parts – as well as photographing the carefully positioned bodies, body parts and dissection process (Strubel, 2007). He was a collector of human bodies with an additional interest in human body parts. He partially viewed these as being "endowed with existential and sexual

meaning" (Towers et al., 1996). To Dahmer, abandoning a human cadaver would have been an absolutely unthinkable act (Bauman, 1991). Brian Masters, a British writer best known for his biographies of mass murderers, views Dahmer's necrophilia as being the result of the fusion of two cognitions, one of which was an interest in the internal anatomy of the human body and another which viewed the ideal sexual object (Masters, 1993), a love object that was entirely compliant and lacked any freedom/free will (Dvorchak & Holewa, 1991; see Silva, Ferrari & Leong, 2002a). Dahmer reported that he engaged in sexual contact with the bodies of his victims and their dismembered bodies. This was a means of reliving the sexual contact he had with his victims when they were alive (Kaplan, 1991, p. 231).

Silva and colleagues have suggested that, in the case of Dahmer, necrophilia (American Psychiatric Association, 2000) may be causally associated to his undiagnosed ASD. They argue that necrophilia frequently "constitutes a repetitive and stereotyped pattern of behaviors, interests, and activities associated with inflexible maladaptive routines, including a persistent sexual preoccupation with human bodies and their component parts" (Silva, Ferrari & Leong, 2002a, p. 4). However, they argue that his necrophilia (i.e., creation, collection and utilization of the bodies of his victims and their parts) is a sexualized form of the repetitive behavioral patterns that are typically found in individuals with ASDs (Silva et al., 2002a).

Depressive affect

Dahmer exhibited a tendency to suffer from recurrent depressive affect, low levels of self-esteem and suicidal ideation. He was prescribed anti-depressant medication (Bauman, 1991). Symptoms of depression were well-document in the year leading up to his arrest. Some of the symptoms he experienced were: chronic low self-esteem, depressive thoughts, feelings of depression, hopelessness and suicidal ideation (Masters, 1993; Norris, 1992; Silva, Ferrari & Leong, 2002a). His symptoms are consistent with a diagnosis of depressive disorder not otherwise specified based on the criteria set out in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th Edition, Text Revision (DSM-IV-TR, American Psychiatric Association, 2000). It has been shown that depressive illness may be one contributing factor for violence (Modestin, Hug & Ammann, 1997; Knox et al., 2000; Fazel et al., 2015; Yu et al., 2017). In Dahmer's case, it may be that his depressive symptoms and compulsivity contributed to his risk for engaging in homicidal acts. Dahmer became significantly dysphoric when he experienced a number of factors at the one time, including: loneliness, feelings of rejection and loss of control of his personal environment. It is possible that there may have been a genetic component of Dahmer's depressive symptomology as his mother also experienced depression (since he was an infant at least) (Masters, 1993; Davis 1995; Egger, 1998; Silva, Ferrari & Leong, 2002a).

Evidence indicative of Autism Spectrum Disorder (ASD)

Dahmer was never clinically assessed and formally diagnosed with an ASD, however there is strong evidence (both academic peer reviewed articles and in books focused on this case) to indicate that he exhibited a number of features that are consistent with a diagnosis of Asperger's Syndrome. Silva and colleagues (2002a, 2002b, 2002c) have suggested that he had a form of high-functioning ASD psychopathology, namely Asperger's Disorder, which is a diagnosis also suggested by Strubel (2007) and Allely and colleagues (2014), who highlighted the social skills impairments that Dahmer had (however, see Nichols, 2006). He lacked reciprocal social interaction and was unable to develop and maintain close friendships with his peers (Davis, 1991), and he was described as a loner as a young child (Egger, 1998; Palermo, 2008). His teacher described him as shy, rigid, unhappy and found it difficult to make friends (Carlin, 2011). He was considered odd and bizarre by his peers (Martens & Palermo, 2005). As stated by Dahmer himself when he was an adult:

> The subtleties of social life were beyond my grasp. When children liked me, I did not know why. Nor could I formulate a plan for winning their affection. I simply didn't know how things worked with other people.… And try as I might, I couldn't make other people seem less strange and unknowable.
> *(Silva et al., 2002a, p. 1349)*

He also displayed a lack of facial expression and had an unusual gaze, which are features consistent with the nonverbal social deficits typically found in individuals with ASD (particularly individuals with Asperger's Syndrome) (Volkmar & Klin, 2000). These impairments were observed since he was a young child (Dahmer, 1994; Masters, 1993). "He would form no relationships other than the most casual and convenient" (Dahmer, 1994, p. 54) and an "increasing inwardness and disconnection" throughout his adolescence (Dahmer, 1994, p. 54).

Symptoms or features of ASD are usually recognized at around the age of three years or shortly thereafter (Volkmar & Klin, 2000). Consistent with this, Dahmer's father, Lionel, observed that around about the age of four, his son displayed a body posture that made him appear rigid with an unusual straightness of his body and his knees would appear to be locked with his feet dragging stiffly. In other words, he exhibited unusual rigid body kinetics (Dahmer, 1994; Tithecott, 1997). Such bodily awkwardness or "mechanical" type of body posture is frequently exhibited in individuals with ASD (Ghaziuddin & Butler, 1998). Dahmer's type of bodily awkwardness was reminiscent of the stereotype of the "zombie-like" individual, a notion that would later consume Dahmer's interests when he was an adult (Silva, Ferrari & Leong, 2002a). When he spoke, it was in a flat monotone, which is another feature that is frequently found in individuals with ASD (Masters, 1993a).

Repetitive thinking and behaviors are also key features of ASD (APA, 2000) and this was evident in Dahmer. For instance, he displayed a persistent interest in human bodies, the sounds that the body produces and their component parts (Masters,

1993). Dahmer's father recalled when Dahmer was four years old that he was fascinated with the animal bones that he had collected in a tin bucket from a crawl space underneath their house. He recalls observing him repeatedly pick up the small bones from the tin bucket and letting them drop back inside. He was particularly fascinated by this (Silva, Ferrari & Leong, 2002a). Dahmer's father has said that, when he was young, he also had some morbid trends and preoccupations (Dahmer, 1994, p. 51).

The external and internal anatomy fascinated Dahmer (Schwartz, 1992). By the time he was 10 years of age, he exhibited a particularly intense interest in exploring the internal anatomy of animals. He was also particularly fascinated with the animal body parts (Masters, 1993; Norris, 1992). When he was a child, Dahmer would collect dead animals from the roadside. He would cure their pelts with a chemistry set or bury them in a backyard cemetery (where he buried his first murder victim) (Schwartz, 1992; Silva, Ferrari & Leong, 2002a). However, unlike many other serial homicide offenders, Dahmer did not get any enjoyment from the torturing of animals and killing them in his youth (Nichols, 2006), it was their insides, their viscera, that he was obsessed with (Strubel, 2007).

When he reached high school, his meticulous fascination and interest in collecting animal bones, collecting deceased insects and chemical processing of dead animals were well-developed (Masters, 1993). Dahmer's father had introduced him to chemistry and to the nature of corrosive acids (Dvorchak & Holewa, 1991). Silva and colleagues (2002a) believe that the obsessional preoccupation that Dahmer exhibited with body parts and dead bodies is consistent with the restricted preoccupation of thoughts and behaviors that are characteristic of ASD (American Psychiatric Association, 2000).

The dangerous point where awakening sexuality occurs at the same time as unhealthy thoughts about viscera

There is a dangerous point when the first sexual stirrings are experienced. Silva and colleagues (2002a) have indicated that what may have happened was that Dahmer's fascination/obsession became eroticized in adolescence, when he started another lifelong obsession, specifically, compulsive masturbation, which coincided with his dissection of animals that had been killed on the road (Strubel, 2007). Dr Park Dietz, a forensic psychiatrist who testified in the Jeffrey Dahmer case, made reference to the coincidence of his first exposure to the internal organs of an animal (when he brought a fetal pig head home from school) and his first masturbation. He suggests that this collision forced the one interest to "fertilise" the other. Dahmer's sexuality and his unhealthy thoughts about viscera became fused (Masters, 1993, p. 172).

Neurological assessments

Dahmer was thoroughly examined and completed a range of psychological tests (including The Minnesota Multiphasic Personality Inventory, MMPI-II and the

Rorschach test) and a number of tests to rule out organic or genetic pathology (including magnetic resonance imaging, MRI, of the brain, electroencephalogram, EEG and chromosomal analysis). There was nothing to indicate that he had any neurological deficits (Palermo, 2008). His MMPI profile, which was considered valid, showed peak elevations on both the Psychopathic Deviate and Schizophrenia Scales (Palermo & Bogaerts, 2015).

Deep ambivalence about his own homosexual behavior

There has been some suggestion that Dahmer's destructive behavior and his fetishistic memorabilia are all an outward expression of his deep ambivalence and frustration about his own homosexual feelings and behavior. It may be that this frustration eventually became channeled into sadistic behavior that would be carried out on any individual who was receptive to his homosexual advances (Jentzen et al., 1994).

Cannibalistic behavior

Dahmer's attorney, Gerald Boyle, described the motivations behind his client's cannibalistic behavior. He ate parts of his victims' bodies so that they would become alive in him again. The association between cannibalism and empowerment is also found in Dennis Nilsen's assessment of Dahmer. Nilsen was a Scottish serial killer and necrophile who murdered at least 12 young men between 1978 and 1983 in London, England. He is considered to be the British equivalent of Jeffrey Dahmer. In a letter to Brian Masters (who is a British writer best known for his biographies of mass murderers), Nilsen suggests that Dahmer's:

> unfolding aberration escalates in accordance with to what degree he is detached from reality (for example, what is termed NECROGRAPHY is an extreme example of extreme detachment). This is manifested in 'going all the way' in eating the heart of one's victim/spouse. (If you have the power to eat a man's heart this demonstrates your extreme power to possess and his extreme passivity). The painting and display of the victim's skull is a constant reminder of one's potency.
>
> *(Masters, 1993, p. 186 as cited in Tithecott, 1997)*

Sentencing and prison

Dahmer entered a plea of not guilty by reason of insanity. The jury found Dahmer to be legally sane on all 15 counts of homicide and he was subsequently sentenced to 15 consecutive terms of life in prison – one for each count of murder that he had been charged with – with no possibility of parole (Jentzen et al., 1994). When he was in prison he was stabbed in a non-lethal attack. Less than three years into his sentence he was beaten to death by a fellow inmate (Strubel, 2007). Clinicians who are unfamiliar with forensic work may inaccurately use a more stringent definition

of mental disease within the context of an insanity defence. However, in the forensic setting, the insanity defence concept of mental disease is an issue of threshold. As Masters explains in his book *The Shrine of Jeffrey Dahmer*, if you were to give shape to the insanity defence, it would be funnel shaped with the disease being the larger aperture. Many individuals who initially meet the mental disease criteria will eventually fail the test (Masters, 1993).

Dennis Nilsen: brief case study

Dennis Nilsen killed his 15 male victims over a five-year period between 1978 and 1983. Nilsen was born of a Scottish mother and a Norwegian father in Fraserburgh, Scotland. Dennis's father had been a soldier in the Norwegian armed forces, fighting against the German army that was invading their homeland. Nilsen's father was frequently absent from the family home. Nilsen felt he was a misfit and he became withdrawn (Martens & Palermo, 2005). He had a strong emotional bond with his maternal grandfather, who died when he was around six years old. Nilsen was disappointed that his grandfather had left him just as his father had done. No one explained to the young Nilsen why his grandfather had died. He took the death of his grandfather badly and he became increasingly more irritable and melancholic. He had no close friends and no one filled the gap that his grandfather left socially and emotionally (Martens & Palermo, 2005). Nilsen's parents divorced when he was seven years old. One year later, Nilsen's mother married again to a quiet but reliable man. Nilsen did not like his stepfather because he took his mother's attention away from him. His mother and stepfather had four children together and Nilsen felt superfluous and neglected. As a result, his feelings of loneliness escalated. During this time, he engaged in episodes of theft and robbery (Martens & Palermo, 2005, see also Pettigrew, 2019).

When he was about 17 years old, he joined the army. He remained in the army until he was 23 years old. During this time, he began to become aware of his homosexual feelings. He tried to repress his homosexual feelings both out of guilt and shame. He also tried to repress them from other soldiers, who had no tolerance for anyone who was homosexual. By repressing his true self, he became increasingly lonely and depressed. However, he did have some social contacts with other soldiers. Also, when he was 21 years of age, he experienced sexual contact with a boy (Martens & Palermo, 2005). After he left the army his social life was very limited. Nilsen joined the Metropolitan Police Training School at Hendon in 1972. After passing the 16-week course he was sent to Willesden Green Police Station. His social life continued to be meagre and his colleagues tended to avoid him because of his lack of social awareness and social-emotional interaction abilities. He decided to leave the police after barely a year following an incident where he had shone his torch into a parked car and found two men who were "behaving indecently." He made the decision to resign as he was unable to bring himself to place them under arrest. His sexual life was limited to one-night stands, which he found very depressing.

When he was 28 years of age, he feared that he would always be alone following a seemingly endless search for companionship with colleagues or with strangers. At this point, his level of self-esteem was so low that he felt that this was all he deserved. In the particularly lonely years between ages 28 and 31, he started to develop violent, sexual and necrophilic fantasies (Martens & Palermo, 2005). He describes that:

> When I had the privacy of my own room as an N.C.O. sexual expression became more complex. The novelty of one's own body soon wore off and I needed something positive to relate to. My imagination hit on the idea of using a mirror. By placing a large, long mirror on its side strategically beside the bed, I would view my own reclining reflection. At first always careful not to show my head, because the situation needed that I believe it was someone else. I would give the reflection some animation, but that play could not be drawn out long enough. The fantasy could dwell much longer on a mirror image which was asleep.
>
> *(Nilsen, 1983, as cited in Masters, 1995)*

Nilsen also stated that:

> In the lonely years I became more and more "into myself" and expressed my fantasies of physical love on my own body. I would jealously not allow others to enter that body. Only I would enter that body. My most fulfilling sexual feasts were savoured with the image of myself in the mirror. To detach this image for identifying it directly with me, it evolved from being an unconscious body into a dead body. I was constantly frequented by the dead image and body of Des Nilsen. The dead Des Nilsen seemed right as the dead Andrew Whyte seemed right all those years ago.
>
> *(Nilsen, 1983, as cited in Masters, 1995)*

He provides details about what he would do in order to achieve a body that appeared dead:

> I put talc on my face to erase the living colour. I smear charcoal under my eyes to accentuate a hollow dark look. I put pale blue on my lips. I rub my eyes to make them bloodshot. I have put three holes in my old tee-shirt. I make a mixture of cochineal and saffron to synthesise blood. I soak the 'blood' into the holes and the liquid stains my shirt and runs down my body. I lie, staring-eyed, on the bed in front of the mirror and let my saliva foam and drip from my mouth. I stare in fascination at the shot body of me in the mirror. I step outside myself in detached imagination. There is another imaginary person in the room who finds my body out in the woods.…
>
> *(Nilsen, 1983, as cited in Masters, 1995)*

Later, as his loneliness became overwhelming, his violent fantasies would become a reality (Martens & Palermo, 2005).

When he was 30 years old, Nilsen met an unemployed young man and they started a relationship that was both shallow and problematic. After only a year into their relationship, they separated. Feelings of loneliness overwhelmed him. Some days later, he made the decision to go out and seek company in a bar. He met a young Irish man who was also alone and he invited the man back to his flat, where they drank a lot and eventually went to bed naked. When he woke the following morning and looked at the boy, Nilsen became afraid that he would leave him when he woke up. Trembling with fear, he strangled him so he would not leave him. Nilsen would strangle a further 14 young homosexual men (the majority unemployed and homeless). He described how he would have conversations with the dead bodies and watched television with them. He would also write poems for some of his victims. Following his arrest, Nilsen stated that he killed only for company (Masters, 1995; Martens & Palermo, 2005).

Nilsen has been described as the "British Jeffrey Dahmer." He would frequent gay bars and then lure men back to his flat under the pretext of a sexual encounter. When they were in his flat, he would ply them with alcohol in order to render them unconscious and he would then strangle them to death (Pettigrew, 2019). He would keep their bodies and engage in acts of necrophilia. With some of his victims, he performed intercrural sex and on one occasion attempted to penetrate the body anally. Intercrural sex is a type of intercourse that is typically regarded as non-penetrative sex, in which a male partner places his penis between a male or female partner's thighs, and thrusts in order to create friction and achieve orgasm. There is no anal or vaginal penetration. The one time that he tried to perform penetrative sex with the cadaver, he found his erection would not last long. Sometimes he would masturbate and fondle the body. However, sometimes just being with them was enough to achieve an orgasm (Pettigrew, 2019).

Nilsen would fantasise that the corpse was a willing relationship partner. He would interact with the bodies as if they were sentient; caring for them, bathing them, dressing the body, sleeping in the same bed, eating meals 'together', 'conversing' and watching television; behavior that was first articulated by Dr Hickey as being "necrofetishism" (Heasman & Jones, 2006, p. 274). Dr Hickey is a consultant and criminologist and is also the Director of the Center for Forensic Studies at Alliant International University. When there were indications of decay and decomposition on the bodies, betraying their role as a willing partner, Nilsen would dismember and dispose of the body parts (Pettigrew, 2019). He would either burn them or flush them down the toilet. Nilsen was eventually caught after a drain-cleaning company discovered a flesh-like substance blocking the drains. Numerous other body parts were found around his flat following his arrest. It is useful to note here that Nilsen was employed as a butcher when he was in the army. At the police station Nilsen explained that, "The victim is the dirty platter after the feast and the washing up is an ordinary clinical task." When asked about his motivation for his crimes, Nilsen replied, "Well, enjoying it is as good a reason as any" (Masters, 1995; Myers et al., 2006).

Case study – Dennis Rader

Rader murdered 10 people (mostly women) in Wichita, Kansas in the United States between 1974 and 1991. Some of the durations between the killings lasted years. On January 15, 1974, he killed Joseph and Julie Otero and their two children, 11-year-old Josephine and nine-year-old Joseph Jr. On April 4, 1974, Rader murdered Kathryn Bright and also shot her brother, Kevin, who survived. On March 17, 1977 (approximately three years later), Shirley Vian was murdered. On December 8, 1977, he killed Nancy Fox. It was not until April 27, 1985, that Rader killed again. He strangled his neighbor, Marine Hedge. On September 16, 1986, Rader killed Vicki Wegerle. Then he killed his last victim, Dolores Davis, on January 9, 1991. In 2005, Rader was apprehended and was given 10 consecutive life sentences. Rader had a preference for female victims irrespective of their age or any particular physical characteristics they had. He would only kill males if they were around as he targeted females to bind, torture and kill (Williams, 2017). His intelligence was slightly below average. Although his crimes were predominantly organized, there are some features of disorganization present in his crime scenes (Douglas & Dodd, 2008).

Rader was born in Wichita, Kansas in 1945 and he was the oldest of four brothers. There is nothing to suggest that Rader came from a family background where he experienced significant childhood abuse, neglect, etc (Douglas & Dodd, 2008; Hickey, 2016; see Williams, 2017). There is some evidence that suggests that Rader experienced some head trauma in both childhood and adulthood. He reports that:

> My mom fell off a horse when she was pregnant with me. She told me she had dropped me on my head when I was 6 to 8 months old. I turned blue, but not taken to the hospital. The right side of head hit hard; that may have scrambled the network.
>
> *(Ramsland, 2006, p. 49)*

When he was 17 years of age, he suffered a potentially serious head injury in a car accident. His head hit the wind shield and broke it (Ramsland, 2006, p. 53). A list of some serial homicide offenders who are known to have sustained severe head injuries in their childhood include Henry Lee Lucas, who incurred multiple head injuries as a result of parental abuse (Norris, 1991); Richard Ramirez who, at the age of two years, received 30 stitches to his forehead after a dresser fell on top of him (Allely et al., 2014; Reid, 2017).

He was described as quiet, polite, preferring his own company and not having a sense of humor by his peers. In 1963, he graduated from high school and attended Wichita State University for a short time before dropping out. In 1966, he joined the air force where he was employed as a mechanic. Rader had his first sexual encounter with a prostitute, which involved bondage, when he was overseas. Throughout his time in the service, he would patronize prostitutes and practice

bondage. In 1970, he was honourably discharged. In 1971, he got married and it has been reported that he had "normal" sexual relations with his wife. They had two children together (Myers et al., 2008).

In 1974, Rader committed the first of his murders, killing a family of four. He suffocated and/or strangled the father, mother and their nine-year-old son. He then took their 11-year-old daughter down to the basement and bound her in an elaborate manner and then hung her from an overhead pipe. The girl was found partially undressed and semen was found on her body, where Rader had masturbated and ejaculated onto her. Rader decided to anonymously write to the newspaper when the police arrested three men for the murder of the family saying that he was the one who carried out the killings. He described details of the crime scene that could only be known by the perpetrator themselves (such as the type of bindings that were used on the victim). Partially as a result of Rader's letter to the newspaper, the three arrested suspects were released by the police – who were then unable to make any connection to Rader – and he subsequently carried out a further six murders over the next 17 years. When he carried out his murders, he would take what he referred to as his "hit kit," which was a bowling bag or briefcase where he kept his tools (e.g., tape, rope, handcuffs, guns). He would bind his victims elaborately. Rader's modus operandi was to strangle his victims so that they were close to death. Then he would release his hands just enough so they were able to regain consciousness and be consciously aware of their fate, only then would he fatally strangle them. Then he would position the body postmortem and masturbate onto an article of their clothing. He transported the body to the vestibule of his church, where he would dress her in lingerie, position her body in a way that sexually aroused him and then photograph her in a range of bound poses. Rader meticulously documented his autoerotic sessions through photographs throughout his "murder career." Following Rader's last murder in 1991, his autoerotic practices, which included sexual bondage and transvestic fetishism, became more frequent (which he would do in a number of locations including hotel rooms, the wood and his mother's basement). The autoerotic practices acted as a substitute for the killing of real-life victims. Rader himself described these activities and the killings as a "fantasy out of control" (Myers et al., 2008).

Rader did not penetrate any of his victims. Douglas and Dodd (2008) have argued that this was not because Rader considered his victims as not being good enough for him to penetrate sexually or engage in necrophilia with. Despite his sexual obsessions, he had feelings of hopeless inadequacy. His feelings of self-worth were so low (and he had such a fear of women) that the idea of penetrating his victims was something he could not do. The only sexual activity that he enjoyed when he was engaging in his binding, torture and killing was masturbation – the victims were simply props (Douglas & Dodd, 2008). The power, thrill and control that he maintained over his victims was what excited him. He was empowered and sexually excited by his victim's suffering. Once he had strangled his victim to death he would typically engage in masturbation and ejaculate onto the undergarments of his female victims (Murray, 2017). Rader's homicides are considered

to be "sexually motivated" (Becker-Blease & Freyd, 2007). The primary support for this assessment was the semen that was found at some of the crime scenes (which was found to be Rader's) and the fact that a number of his victims were found either naked or with their clothes cut or removed (Douglas & Dodd, 2008).

Because of his insatiable desire for attention and notoriety, Rader sent letters to the police taunting them with his descriptions of his sadistic crimes and indicated where the most recent victim's body could be found (Douglas & Dodd, 2008; Williams, 2017; Murray, 2017). In order to authenticate the letters, he would sign them with 'BTK', which was an acronym that stood for "Bind, Torture, Kill" – his preferred method of killing (Robinson, 2005). Rader also wrote BTK in such a way that made it sexually explicit (LaBrode, 2007). Rader sent a computer disk to the local media and the police were able to trace it back to the Christ Lutheran Church and then to Rader (White, Lester, Gentile & Rosenbleeth, 2011).

Following Rader's arrest, the profile that had been generated of the BTK came under intense criticism because the profile made the claim that the BTK killer "would not have many friends," "all of his relationships would be superficial" and "he would not be married or have any children." However, this was far from the case, as Rader was married and had two children. People described him as being a nice, normal guy (Williams, 2017). He was in the military for four years, worked for ADT Security Services and was a leader in his church congregation and in the local youth scouting program. Although Rader's profile was not 100% accurate, this does not suggest that profiling is not useful and needs to be abandoned (LaBrode, 2007).

Escalation of fantasies

Three key processes are required to enable an individual to appear a normal member of society and repeatedly kill according to Dr Al Carlisle, a clinical psychologist who has conducted extensive research on serial killers and has interviewed Ted Bundy, the Hi Fi killers, Arthur Gary Bishop, Westley Allan Dodd, Keith Jesperson and many others. These three key processes include:

1. **Fantasy:** the individual imagines scenarios for entertainment or self-comfort.
2. **Dissociation:** the individual escapes into a fantasy in order to avoid the reality of uncomfortable feelings, as well as boredom.
3. **Compartmentalization:** the individual relegates different ideas and images to specific mental frames and develops boundaries that enable them to effectively keep them separate.

Dr Ramsland has suggested that these three processes naturally appealed to Rader's "triangulated sense of reality" (Ramsland, 2006, p. 94).

Escalation of fantasies and bondage during childhood

When Rader was in grade school, he experienced the start of his fantasies, which comprised of bondage, control and torture. He recalls watching his grandparents strangle chickens on their farm when he was a young boy (Douglas & Dodd, 2008; Hickey, 2016):

> Then there were the death stories. Grandma Cook subscribed to Redbook Magazine. When I was 12 or 13, I remember a story about a young man killing his girlfriend. I believe he strangled her. When I heard it, I was sexually aroused. As I read it, I felt uncomfortable yet I had a strong need to know. I had already started mild bondage. This was the first sex story, or the way I perceived it. He killed her by stuffing leaves down her throat and strangled her. I recall that magazine even today. Redbook had some racy articles. That may be why I started later seeking out crime thrillers and true detective type magazines. I liked the ones with a "girl in trouble" on the cover.
>
> *(Ramsland, 2006, p. 47)*

Shortly after this, he started to kill animals, hanging cats and dogs – see section below (Douglas & Dodd, 2008; Hickey, 2016). Ramsland stated that, for Rader, bondage laid the foundations for his sadistic sexual fantasies.

When he was in eighth grade, Rader would sit in the back of his class and become immersed in his sexually sadistic fantasies. Despite his vivid imagination, he never put it to good use when he was in school. Instead, he used his vivid imagination to create dungeons, living mummies and devices for torturing people. In class, he would daydream about the girls who were around him, imagining what it would feel like to bind their hands and legs together using a heavy rope. He would then fantasize about binding them to the icy cold iron train tracks. He would fantasize about how the ropes would dig into the girls' soft flesh, which would turn their wrists and legs into a bloody shade of pink. His favorite part of this particular fantasy was when the locomotive came into view. As the locomotive got closer to the girl tied to the track, he would get so excited that his heart felt like it would explode right out of his chest (Douglas & Dodd, 2008, p. 139).

Escalation of fantasies and bondage during adolescence

When he was in his early adolescence, Rader began his obsession with strings and cords. He enjoyed the feeling of being tightly wrapped up with strips of cloth and the pressure of the bindings. Merely thinking about these feelings was enough to make him sexually aroused. His fantasies were only just starting to form, although the exact details were still undeveloped in his mind. What he was clear on was his desire and need to capture a pretty girl, then bind her arms and legs together. Instinctively he wanted his victim to be alive. After some time, his longing to wrap up a victim or have someone wrap him up built up inside of him. In his journals,

he describes how one afternoon he put some ropes into his pocket and went out to the distant outskirts of his neighbourhood, out to a hedgerow. When he made sure that he was alone and no one would disturb him, he would lay down in the warm dirt and wrap string tightly around his ankles and tie it with a knot. He put his hands through a slipknot and, with the string clenched between his teeth, pulled the bindings tight around his wrists. He would then feel himself getting sexually aroused in a way he had never experienced before. One afternoon when he was engaging in one of his bondage sessions, he ejaculated after a few minutes. He had never experienced anything so euphoric and the very next afternoon he sneaked out of his house and engaged in another session. Before long, whenever he had free time, he would engage in his bondage sessions (Douglas & Dodd, 2008, p. 134).

Lynes and Wilson (2015) have suggested that Rader's sexual fantasies, which involved bondage and strangulation, stemmed from his childhood where he engaged in the binding and strangulation of animals (Wilgoren, 2005). Rader's sexual fantasy activities escalated when he was in his adolescence. He would bind the legs of an animal and then wrap them up in rope so they were like a mummy out in the barn. It was exactly how he imagined it would be in a human. After some time, he would put baling wire around the neck of the animal and would slowly twist it so that it got tighter but not so tight as to damage the flesh, just enough to cut off the blood supply to its brain. He'd repeatedly tighten the wire and then loosen it up. The terror and fear in the animal's eyes as he did this thrilled him (Douglas & Dodd, 2008).

Hanging

Rader would hang himself whenever he had any free time. Typically, he would use his parent's basement, the barn or the bathroom to bind himself at the midsection. He would make the binding tighter and tighter in order to obtain the "high" feeling he got from the asphyxiation. Even though he considered what he was doing to be "wrong," he was unable to stop himself (Ramsland, 2006, p. 53). He would bind himself at the ankles using a leather belt, then encircle his body in a leather web using a number of other belts he owned. Once he was tied up to his satisfaction, he would put a plastic bag over his head, wrap a slipknot around it and then pull it tight. He became sexually aroused as his lungs tried to get the little air that remained in the plastic bag (Douglas & Dodd, 2008, p. 213). Sometimes he would hang himself in the woods. He would put a thick rope around a tree branch that was able to support his weight. He would put his head though the noose, then put just the right amount of weight into it so that he could feel the pressure of the rope digging into his throat and up the side of his neck, but not enough to cut the blood supply to his brain. The pressure of the rope on his body was what he enjoyed the most (Douglas & Dodd, 2008, p. 201).

Rader was unusual in the way he hung himself. Rope is typically used by people to cut off their blood supply to the brain, which leads to an intensification of an orgasm, which they get during either masturbation or sexual intercourse with

someone. However, for Rader, he could reach an orgasm without needing to have sex or masturbate. For Rader, just the act of being hung was all that was needed and, the more time he spent hanging, the harder his erection would become until he climaxed (Douglas & Dodd, 2008, p. 202).

"Slick ads" and modified photographs

Rader's obsession for bondage can be seen in his artwork (Williams, 2017), which was his self-made pornographic materials (Ramsland, 2006). When he was older and working at the air force, he purchased a camera and in his spare time he would take pictures of the prostitutes he had slept with. Once he had developed the pictures in a darkroom, he would occasionally draw things on top of them such as a noose going around the woman's neck, ropes that went across her wrists and ankles and a gag over her mouth. He would then use these photographs as masturbatory aids for hours. According to Rader, one of the things he enjoyed doing most was cutting out pictures of women from newspapers and magazines. He would then sketch on top of the pictures he cut out in the same way he would sometimes do with the photos he took of the prostitutes he had slept with, putting bindings around their bodies, etc. What he particularly enjoyed about this activity was selecting his victims randomly. No one was safe or knew what was going to happen to them. He would glue them into index cards, which he referred to as "slick ads" (Douglas & Dodd, 2008, p. 159).

Rader made the following comment about the "slick ads" he created:

> My voyeurism continued with what I called slick ads. At first, they were from the Sears and Montgomery Wards catalogs – pictures of women in feminine apparel. As the catalogs were discarded, I tore out certain models to keep. Later, I made collections of them, or of certain apparel they would model. Some of them had that look or pose. I would trace them onto blank paper and then draw bondage items on them. I named them and collected certain ones for years.

Here Rader is describing how he would also use tracing paper on top of the photographs in order to reproduce images of females. When these images were reproduced, he would draw onto the image ropes and bindings that depicted his sadistic sexual fantasies (Ramsland, 2006; Williams, 2017). When he was feeling particularly desperate for a real-life victim, he would stand in front of a window or a mirror and would pose while he drew bondage items onto his reflection (Ramsland, 2006, p. 66).

Self-imposed suffocation in the office

When he was working for the Census Bureau, one afternoon Rader decided to engage in self-imposed suffocation while at work. He hung a sign on his office door

that said he was going for lunch. He then locked his office door and laid a plastic tarp on the floor. He rigged up his camera on a tripod and, using a long cord, he was able to trigger the shutter from a distance. He undressed and put on a pair of panty hose, pink panties and a bra (which had padding) to give the indication of breasts. He used nylon straps to bind himself and then took pictures. After 30 minutes, he had managed to wrap his whole body in plastic. When he had to "fight for air," he achieved an orgasm. Rader reported that the plastic was just a part of the reason that he managed to obtain the "most satisfying climax." Successfully engaging in his sexual fantasies while surrounded by his co-workers during his 60-minute lunch break was the element that really excited him (Douglas & Dodd, 2008, pp. 213–214).

Motel parties

In their book, Douglas and Dodd (2008) write about the motel parties that Rader would have. He would write about these motel parties in his journals. He would check into a motel room out of town and lock the door and would spend hours by himself caressing the victim's personal effects, wearing some of the clothing of his victims, wearing wigs, putting on a mask he modified by applying make-up to it (e.g., lipstick, mascara) then using ropes to bind himself and wrapping plastic bags over his head. Rader also kept a collection of dolls that he would use to practice bondage on. These dolls were found bound with rope. Rader gave detailed and graphic accounts of how he had stalked and then killed his victims when he was in court. When the judge asked him if he had killed in order to satisfy his sexual fantasies, Rader's answer was yes (Simons, 2005). On some motel parties, he would put his collection of Barbie dolls who were dressed in very skimpy clothes on the bed. He would then position his camera on a tripod far enough away that, when he laid down beside the dolls, they looked like the same size as him. He would then use these pictures as a masturbatory aid and imagine that the dolls in the photos were real-life victims. The Barbie doll for Rader was the symbol of the perfect female (Douglas & Dodd, 2008). In Rader's own words, "I used dolls as fantasy victims in bondage" (see Ramsland, 2006, p. 163).

Rader described what he would do when he was having one of his "motel parties:"

> I put the TV on in the background to deaden the noise as I laid the bondage theme upon myself or a fantasy victim. I had an endless array of ideas. At times, I tied my legs to the corner of the bed, and loose bonds with the hands in the corner, tying a rope to [my] groin area, a plastic bag over my head. As air ran out, the feeling of helplessness and that death may come, with tight rope in the groin, then Big G happened. I used a U-bolt for ankle bondage. I used dowel wooden rods a lot in a device I made (hidden under the bed during the day). It was fun to shop for bondage devices, like the Clutter killers.
>
> *(Ramsland, 2006, p. 167)*

He also described that:

> Once when I was at a Regal 8 in Topeka, I created a device to cause auto-asphyxiation. Bound to a chair, I rigged a rope and pulley system to the bathtub. As the water dripped into a bucket, by means of a rope, it tightened a noose around a plastic bag over my head. It made me feel like "The Pit and the Pendulum." Release came as the bag tightened. The key was to be tightly tied, but always leave one hand free to undo the bag. I was aroused by the tightness and helplessness, and death coming closer and closer.
>
> *(Ramsland, 2006, pp. 167–168)*

Moreover, he describes that:

> I did the mummy with rope or tape, and added a plastic bag. My first mask was like the mummy. I used bandages like the kind used to wrap an ankle. Using plaster of Paris and water, I wrapped the material around my face. I used Vaseline on my face to keep it from sticking and cutting a hole for air. I designed it and let it set. It's in some of the motel party pictures I took. My sexual excitement came more from this kind of activity than going after a person. The thrill and feeling of all the stuff laid out. I was addicted to the ritual of S/M bondage. Going though it was all I needed.
>
> *(Ramsland, 2006, p. 168)*

He further describes another activity that he would engage in during his motel parties:

> Once I bought a garment bag big enough for me and did bondage and pretended to suffocate in it. Or I would simulate a figure inside it, with me on top, poking my head inside, with the zipper tight. I kept this bag folded up in my home closet in my locked big travel suitcase. I used it for motel parties only.
>
> *(Ramsland, 2006, p. 169)*

Interestingly, it has been suggested that Rader used "sexual fantasy" to explain his motivation underlying (as well as the justification for) many of his crimes (Bartels & Parsons, 2009).

Becoming the victim: re-creating a torturer–victim fusion

After he was arrested, police found Rader's large collection of writings, photographs, artwork and other items that he had collected over the years. This collection documented his sadistic sexual fantasies, interests and also his murders (Knoll & Hazelwood, 2009). The collection also included postmortem photographs that Rader had taken of two of his victims along with items of their clothing.

Photographs were also found of Rader in bondage and cross-dressed in the clothing of some of his victims. Rader had also dug some "graves" and would take pictures of himself laying in these graves that he had dug wrapped in plastic like a mummy (Ramsland, 2006, p. 163). Dr Katherine Ramsland, a professor of forensic psychology at DeSales University in Pennsylvania, has suggested that this was reminiscent of the erotic feelings he had previously experienced as a child when he touched his mother's and grandmother's silky undergarments.

Analysis of the photographs that Rader had taken of himself during his bondage sessions and those he took of his victims showed marked similarities. The photographic evidence that was recovered illustrates that Rader very carefully would position his victims in specific ways while they were bound and had a cloth or a mask placed over their faces. He would closely imitate and recreate the positions, clothing, and bindings of the victims he had previously photographed and take photographs of himself. These pictures that he took of himself were similar to the photographs he took of some of his victims even years after having killed them. The majority of sexually sadistic serial murderers (SSSM) operate from a fantasy script. If Rader was consistent with most SSSMs, he would be motivated to relive his extreme violent and sadistic acts by memorializing them (using photos, items from the victim, etc). He may use himself as a "stand-in" when no victim was available (Knoll & Hazelwood, 2009).

Sexual murderers who are highly sadistic are highly motivated by their need and desire to have God-like control over their victims (Warren, Hazelwood & Dietz, 1996; Knoll & Hazelwood, 2009). They are also found to carry out acts of murder of longer duration (Hill et al., 2006). It may be that these sadistic individuals wish to prolong both the duration and the degree of control that they have over their victim. This would also enable them to "correct" any parts of their homicide attack that they did not like or considered a failure. By taking on the identity of their victim, the perpetrator is able to repeatedly relive at will the offense and its associated fantasies. They get a strong sense of sexual arousal with the power of life and death that they hold over their victim. Given this, it is highly likely that becoming the victim provided Rader a "heightened state of transcendence" (Knoll & Hazelwood, 2009). In their paper, "Becoming the victim: Beyond sadism in serial sexual murderers," Knoll and Hazelwood (2009) provide two examples that illustrate how Rader would re-create a fusion of torturer and victim. Both examples are described below (victim A and B).

Rader victim A

On April 27, 1985, Rader killed victim A, who was a middle-aged woman who lived just six doors away from him. Nine days after she went missing, her body was found seven miles from her home in a ditch. After he had manually strangled the victim in her home, Rader then transported her body back to his church where he then "… played God: controlled her… posed her bound body in lewd positions, and took photographs…." The victim in one of Rader's photos is lying on her back

with no clothes and has been bound round her ankles and wrists. In another two photos, victim A has her back against a wall partition in a semi-sitting position. Rader had put a bra on her and he had bound her at the ankles, calves and also just above her knees. Rader had put her wrists behind her back, which indicated that they had been bound. The lower part of her face had been covered with a black cloth. In a photo that Rader took of himself approximately four and a half years later (the date the photo was taken was written on the photo by Rader), Rader is in his mother's basement standing with his back against the wall and he is wearing lingerie and bound at the ankles, calves and above the knees. It is likely that he had also bound wrists that were behind his back. He had a black cloth that covered the lower part of his face (Knoll & Hazelwood, 2009).

Rader victim B

On January 19, 1991, Rader killed victim B, who was a 62-year-old widow who lived in a single family residence. Victim B had been strangled to death and was then transported away from her home, which was similar to victim A. Thirteen days later, victim B's body was discovered beneath a bridge that was several miles away from where she lived. Recovered close to the body was a mask on which Rader had painted black eyebrows, eye lashes and also red lips. After Rader murdered victim B, he took a number of photographs of her. In one photo, victim B is lying on her back and had her arms behind her back, which were bound. The mask, which had been recovered close to victim's B body, could be seen in the photographs covering her face. After he had killed victim B, Rader took photographs of himself lying on his back in a grave he had dug, which he later informed authorities he had intended for use with victim B. In the photo he took of himself, he has his hands positioned behind his back and the lower half of his body is covered with fresh dirt. In the photos, Rader is wearing a new mask on which he had covered the mouth up with some black tape. The police investigation found photographs of Rader where he had on the first mask before he killed victim B. When questioned by police, Rader admitted that he regretted leaving this first mask at the crime scene. One photo depicts him in his parent's basement when they were out. He can be seen in the photo wearing victim B's clothing (Wenzl et al., 2007; Knoll & Hazelwood, 2009).

Knoll and Hazelwood (2009) have suggested that the regret that Rader felt over leaving his mask at the scene of one of his crimes shows how attached he was to it. His significant attachment to the mask may be indicative of a fetish. The definition of a fetish is having "recurrent, intense sexually arousing fantasies, sexual urges, or behaviors involving the use of nonliving objects" (American Psychiatric Association, 2000). It has been suggested by Knoll and Hazelwood (2009) that Rader's significant attachment to his mask and also the facial coverings (e.g., black cloth) may suggest that his female mask and/or black cloth bridged the gap between his fantasy and reality – between torturer and victim – which may be why he regretted losing his mask. In other words, the facial coverings were some form of transitional

object. When he was engaging in his autoerotic activities, the mask enabled him to re-create at his leisure a "fusion of torturer and victim" and extend his omnipotent control and power over his victim. Rader's desire to fuse with victim B can be seen from the photo that he took of himself in the grave that he dug, which was intended for victim B. By assuming the role of the victim, he has complete control over her beyond her death. By becoming the victim, Rader is able to have the ultimate God-like power and control over the victim. Not even death can reduce his omnipotence – he is essentially mocking the limits of death itself (Knoll & Hazelwood, 2009).

Psychological significance of the vehicle to Rader

Douglas and Dodd (2008) describe how Rader would use his vehicle in order to physically re-enact his sadistic sexual fantasies:

> I'd read an entry in his journal detailing his late-night exploits in the back of his truck during a camp out during the mid-1980s. On that autumn night, Rader didn't wrap a rope around his throat, but he did strip off his clothes, pull on a pair of women's underwear and a bra, wrap himself up in ropes and dog collars, and clamp on a pair of handcuffs over his hand.
>
> *(Douglas & Dodd, 2008, p. 311)*

It appears that, for Rader, the truck was deeply psychologically significant to him. Within this truck he was able to practice or rehearse his sexual fantasies without fear of being discovered or judged by other people. Rader said that during the "trolling" phase, he would be "looking for a victim at that time, and that you can either be trolling for months or years" (Court Transcript, Sedgwick County's District Court: March 1, 2005, see Lynes & Wilson, 2015). Rader's occupations as an alarm installer for ADT security services and then, later, a compliance officer (Douglas & Dodd, 2008) afforded him the means to "troll" for victims in a considerably larger geographical area (Court Transcript, Sedgwick County's District Court: March 1, 2005) for victims, something that would be very challenging to do without the aid of a vehicle (Clarke & Felson, 1993; Lynes & Wilson, 2015). Rader also recalled that, when he worked for ADT security services, in his first trip out of town, he cruised the streets hunting for a suitable target he might want to strangle or garrotte. The knowledge that Rader gained while he worked for ADT was used when he engaged in his trolling for victims and carrying out his crimes. Every day work-related duties were influenced by his homicidal fantasies (Lynes & Wilson, 2015). Rader reported that, on one occasion where he was installing alarms for a client, he "rigged the home in a way that would allow [him] to get back inside" (Douglas & Dodd, 2008, p. 208).

Killings as project-based leisure

Federal Bureau of Investigation (FBI) profiler John Douglas made the comment that "men like Rader kill as a form of recreation" (Douglas & Dodd, 2008, p. 162). Serial homicide has been conceptualized as a version of "serious, intolerable, criminal leisure" (Williams & Walker, 2006). In William's analysis of law enforcement reports and official court documents of The State of Kansas vs. Dennis L. Rader, Williams found that Rader made a comparison between murder and going fishing and there was one occasion where he killed as a way of celebrating a particular St. Patrick's Day – this was his version of leisure (Williams, 2017, 2017a). He stated to detectives in an interview that:

> I think it can be that a man goes fishing and sometimes he's not very lucky … it may be some social issues, busy at home or work. I'm sure that I was probably trolling and stalking, it (killing) just never – it just never happened.

He also told the detectives how he would frequently imagine he was a spy as he planned and executed his crimes (Williams, 2017). For Rader, it is clear that the serial homicide process was experienced by him as recreational leisure. Rader talks about how his trolling and stalking would take place in between the other responsibilities that he had. He also claimed that it is likely he would have committed more murders if it was not for his job and family responsibilities (Williams, 2017). Rader was also found to have researched other serial homicide offenders extensively. He acquired knowledge that he used in order to form his own identity as a serial homicide offender (Williams, 2017).

Williams and Walker (2006) suggested that the process of serial homicide for Rader was primarily serious leisure. However, it has since been considered to be more appropriately defined as project-based leisure. Project-based leisure consists of elements of both serious and casual leisure. Rader referred to all of his murders as being specific, highly detailed "projects." Rader described his mephitic projects as consisting of three sequential phases, including: trolling, stalking and, finally, the act of murder itself. The trolling stage was described by Rader as being "wide open" with respect to potential females of interest. Whenever he had any free time, he would drive around and look for any potential victims, which leisure scholars would refer to as being casual leisure. Once he had chosen a potential victim to target, he would start to stalk her. Once he had chosen his target, he would devote more of his time to that particular "project" – his stalking would be more focused and he would carefully observe the lifestyle patterns of his target victim and make his plans. This reflects a shift from casual to serious leisure. Rader's substantial collection of personal writings (daily journal logs), sketches, photographs and trophies from victims enabled him to relive the homicide in his sadistic and violent fantasies. However, Williams argued that much of this material could be considered artifacts associated with leisure planning and preparation. It is possible that the anticipation

and excitement of his next "project" helped him to cope with not being able to kill with as much frequency as he would have wanted (Williams, 2017).

Rader told the detectives that he was planning to carry out an 11th murder, which would be accompanied by a "final curtain call communication" to the police. He then said that, after this, he would retire from engaging in his mephitic leisure projects. He said:

> I was basically going to do this like a play production. I was going to write a list of the characters, you know, and you know, down at the bottom "BTK Productions," or something like that; some wild thing like that. It was basically going to have all you guys, anybody that ever ran in the paper that had any connections, your name was going to show up there and what – basically what you did. Like Ken (Landwehr), you know, the main BTK investigator. All the way back, you know, boom.
>
> *(Williams, 2017, p. 33)*

Even though Rader stated that he had plans to carry out a final murder project, it is unlikely he would have ended his homicidal behavior after one more victim (Williams, 2017).

Court

Rader's trial was completed in 2005. Rader pleaded not guilty and waived his right to a jury trial. The prosecutors presented their case, which consisted of evidence ranging from his confession to the DNA that matched him to some of the crime scenes (Simons, 2005; Ramsland, 2006). Rader first appeared in court on March 1, 2005. Rader was temporarily represented by Richard Ney, who had won an acquittal for Bill Butterworth in the Fager triple homicide trial. However, Rader stated that, "My family had hired him. He met me on February 26 in the evening. I told him I was BTK, and to tell my family I was sorry. I had tried to call them but couldn't get out. Due to the Butterworth case and the BTK letter I wrote to Mary Fager, he couldn't represent me."

Steve Osborn and Sarah McKinnon were then appointed as public defenders and they led a team of attorneys and investigators. Dr Robert Mendoza and Tali K. Waters, of Cambridge Forensic Consultants, were hired to carry out a psychological assessment for competency. Dr Mendoza administered a number of standard assessment instruments. However, evaluation of competency focuses only on present mental ability to engage in different parts of the legal process. The psychological assessment for competency is not a comprehensive mental health examination. However, this competency evaluation did include more assessment than would typically be expected for a standard competency evaluation. Dr Mendoza noted in his assessment no history of mental illness or drug abuse in addition to no medical conditions. Rader's artwork and journals as well as the crime scene photos were examined by Dr Mendoza in addition to the videotape of Rader's police

interrogation, medical, school and prison records. Rader presented as depressed (even tearful) throughout his evaluation. He was anxious, had lost some weight and his attention was impaired. He admitted that he had considered suffocating himself in his cell. However, he did not wish to die despite the circumstances he was in. Mendoza considered Rader's habit of excessive writing (he kept daily logs) may be indicative of hypergraphia. Hypergraphia is a behavioral condition characterized by the intense desire to write or draw. Also, during conversation, Rader gave "excessive detail." Dr Mendoza also highlighted a comment that an unidentified person had written on the back of Rader's copy of the evaluation report: "manipulation as a symptom of psychopathic personality disorder." It is believed that this was written by a member of the evaluation team, as there is a note to "Steve" (the attorney) that there is no evidence of pedophilia. However, there does not appear to be any evidence that someone in the evaluation team administered a standard diagnostic instrument for psychopathy in Rader.

In addition to hypergraphia, the evaluation report noted narcissistic personality disorder (NPD) and obsessive-compulsive personality disorder (OCD). However, neither of these two disorders reached the level of a significant mental illness – one that would reach the clinical threshold. NPD and OCD were also not relevant for a competency evaluation (Ramsland, 2006, p. 218). OCD is an intense preoccupation with rituals and routines. Individuals with OCD are pressured by fears that can only be alleviated to some degree (temporarily) if they engage in certain repetitive behaviors. Dr Ramsland reported that Rader was in agreement with the assessment team that he was narcissistic. However, he believes that his routines are ordinary and not obsessive or fear-based and, therefore, did not agree that he had OCD. He also did not agree that he had hypergraphia (p. 218). Two neuroscientists, Debra Niehoff and Dr Mireille Meyerhoefer, reviewed some of Rader's letters and were in agreement with Dr Mendoza's analysis that he had hypergraphia, which they stated was indicative of possible developmental issues and learning disabilities. Unfortunately, there does not exist a formal diagnosis for this (Ramsland, 2006, p. 240).

When Rader was being evaluated, he exhibited no empathy for his victims. He demonstrated a strong need for admiration and attention, and he had a preoccupation with fantasies of power. He believed he was unique and that only people with a high status were able to understand him. "Dr. 'M' had ink blobs and other tests," said Rader, "but I recall looking at them, and telling him my feelings. I would say, a 'butterfly' or some related figure, but then I [would] say it could be a 'monster' and give a description. I have always had a knack of finding monster figures in every-day forms. Here in my room, I call them Cave Monsters. They're either on the wall or floor. I could spend all day sketching them, each time a new angle or light shades." (Ramsland, 2006, p. 218). He showed a strong sense of entitlement and exploration of his life history revealed the exploitation of others for his own gain. He demonstrated a preoccupation with maintaining routine, order and structure, which gave him a sense of control. Dr Mendoza found him to be conscientious to a fault (Ramsland, 2006, p. 218). Rader described to Dr Mendoza that his decision-making methods are planned and logical. However, he confessed that

about 10 to 25% of the time, *"I do make impulsive decisions when I don't have time to think about it."* Some evidence of paranoia was noted but there was no evidence of any delusions. Rader was therefore found competent to stand trial.

Summary

As demonstrated in this chapter, there exists no single theory or causal pathway to what makes a serial homicide offender. Instead, there are numerous factors that lead to the "development" of a serial homicide offender (Hough & McCorkle, 2016). This multifactorial explanation for serial homicide can clearly be seen in the case studies presented in this chapter of Jeffrey Dahmer, Dennis Rader and briefly in the mini case study of Dennis Nilsen.

Key points

- Reid (2017) has posited the adoption in the academic research community of the newly advanced criteria labeled under the heading of: Compulsive Criminal Homicide (CCH). CCH offers an extensive criteria-based description that not all definitions of serial homicide have. The word "compulsive" specifically refers to the patterned and repetitive nature of their crimes.
- Sadistic serial homicide offenders (e.g., Jeffrey Dahmer and Dennis Rader) usually have very elaborate and detailed fantasies, which include themes of abuse, control and dominance (Skrapec, 2001). Many view fantasy as being the underlying basis for serial homicide offending and paraphilic fantasy as being the practice run for solitary rape–murder and serial sexual homicide (Prentky et al., 1989; Schlesinger, 2000). It is suggested that the fantasies act as a cognitive rehearsal for sexual homicide (Stein, 2004; Silva, Leong & Ferrari, 2004). The crime scenes often reflect aspects of the serial homicide offender's fantasies (e.g., body position) (Ressler et al., 1988).
- Based on all the resources that were available to them, Silva and colleagues diagnosed ("distance diagnosed") Jeffrey Dahmer with "Personality Disorder Not Otherwise Specified, [PD-NOS] With Schizoid, Antisocial, and Schizotypal Traits" (Silva et al., 2002a, p. 1355).
- Dahmer was never clinically assessed and formally diagnosed with an ASD. However, there is strong evidence (both academic peer reviewed articles and in a plethora of books focused on this case) to indicate that he exhibited a number of features that is consistent with a diagnosis of Asperger's Syndrome. Silva and colleagues (2002a, 2002b, 2002c) have suggested that he had a form of high-functioning ASD psychopathology, namely Asperger's Disorder, which is a diagnosis suggested even more recently by others (e.g., Strubel, 2007; Allely et al., 2014).
- By taking on the identity of their victim, the serial homicide offender is able to repeatedly relive at will the crime and associated fantasies. They get a strong sense of sexual arousal with the power of life and death that they hold over

their victim. Given this, it is highly likely that becoming the victim provides a "heightened state of transcendence" (Knoll & Hazelwood, 2009). In their paper, "Becoming the victim: Beyond sadism in serial sexual murderers," Knoll and Hazelwood (2009) provide two examples which illustrate how Rader would re-create a fusion of torturer and victim.

- Williams and Walker (2006) suggested that the process of serial homicide for Rader was primarily serious leisure. However, it has since been considered to be more appropriately defined as project-based leisure. Project-based leisure consists of elements of both serious and casual leisure. Rader referred to all of his murders as being specific, highly detailed "projects."

Essay/discussion questions

1. What are the common experiences or traits that many serial homicide offenders appear to share?
2. Critically review the motivations of serial homicide offenders.
3. How are organized and disorganized serial homicide offenders described?
4. What are some of the key factors that contributed to Jeffrey Dahmer's serial homicide behavior?
5. What are some of the key factors that contributed to Dennis Rader's serial homicide behavior?
6. What might have prevented Dahmer and Rader from engaging in serial homicide?

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4

MASS SHOOTERS

It has been well highlighted that research investigating mass shootings is underdeveloped (e.g., Fox & DeLateur, 2014). There are numerous explanations for this, including researchers' limited access to data (Huff-Corzine et al., 2014) and that the event we are interested in investigating is a relatively rare occurrence (Fox & DeLateur, 2014). Published law enforcement data includes data regarding the race, gender, age and number of victims and offenders. Moreover, they include information on the weapons used, the date and time of the killings and the location(s) of the offense(s). Unfortunately, such published law enforcement data do not typically include data on the trajectories or the pathway to violence (e.g., triggers and factors that contributed to the attack in each case) (Huff-Corzine et al., 2014). A review identified some of the main challenges of utilizing data to study serial homicide and proposed new methods to address these limitations (see Yaksic, 2015). Juvenile mass murder has largely been a relatively neglected field of research, with only some rare exceptions (e.g., Wille, 1974). It has been argued that this is due to a lack of interest as opposed to reflecting the relative rarity of such events (Palermo & Ross, 1999). This chapter investigates some of the key contributing factors that propel someone to engage in a mass shooting attack. It then explores some of these factors in more detail in two contemporary mass shooter cases, that of Dylann Storm Roof and Elliot Rodger.

Mass shootings: definition

Public mass shootings, sometimes referred to as "active shootings" or "rampage shootings," are an unusual type of homicide (Lankford, 2015). There is a lack of consistency in the criteria used to define an event as a mass shooting or mass murder (Fox & Levin, 2015). There is variation in the definitions used to define a "mass shooting." The statistics that are on the lower end reflect the Federal Bureau of

Investigation's (FBI's) precise definition, which is now defined as "three or more killings in a single incident" (FBI, 2013, p. 9). The FBI's definition of a mass shooting also excludes shootings that are motivated by gang- or drug-related violence (FBI, 2013, p. 5). The FBI definition of a "single incident" is dependent upon the event occurring within a "confined and populated area" (FBI, 2013, p. 5). The use of the word "confined" is a linguistic marker that requires the caveat that incidents that take place outside, albeit in a confined space, are also included (FBI, 2013).

Public mass shooters shoot random strangers in public places (such as schools, the work place, theaters or public streets), as opposed to just specific targets (Newman et al., 2004). Approximately 38% of mass shooters commit suicide "by their own hand" and about 10% commit "suicide by cop" (Kelly, 2010 as cited in Fox & Levin, 2003). Newman and Fox (2009) emphasise the importance of considering the age of mass shooters as it is related to the "social dynamics and the interactive context" of the individual. Few studies have investigated this, however. Meloy and colleagues (2004) compared North American adolescents ($n = 34$) with adult ($n = 30$) mass murderers and found that a higher proportion of adults commit suicide after their attack compared with adolescent (53% and 9%, respectively). Some of the predisposing factors for mass murder in many of the adolescents included a fascination with weapons and war (Meloy et al., 2004). Mass shooters also appear to be a largely male phenomenon. One study that included 160 active shooter incidents that occurred between the years 2000 and 2013 revealed that there were only six incidents that involved a female shooter (96.2% of the active shooter incidents were carried out by men) (FBI, 2013).

Are mass shootings on the increase?

Mother Jones have stated that mass shootings are on the increase (Follman, Aronsen & Pan, 2012). However, Fox and DeLateur (2014) state that this increase is only found for attacks that occurred in public places, as, when domestic mass killings in private homes are included, the increase is not found. Additionally, they highlight that Mother Jones did not include all mass shootings in their analysis but included those that they considered to be senseless, random or were at least public in nature (Fox & DeLateur, 2014). However, schools are generally public locations, and distinct data analysed by Mother Jones (Follman, Aronsen & Pan, 2012) and the FBI (Blair & Schweit, 2014) both reported finding an increase in school shootings in recent years (Madfis, 2017).

Phenomenon of increased fame-seeking in the United States

A study that was carried out in the United States found that 81% of high school students reported that they expected to have a "great paying job" by the time they were 25 years of age. Also, 59% reported that they expected to be financially better off compared to their parents. Lastly, 26% had the expectation that they will soon become famous (Twenge, 2014). There have also been a number of studies that

have suggested that fame is desired and revered more in the United States when compared to any other country in the world (Twenge & Campbell, 2009; Twenge, 2014). Such "single-minded pursuit of personal success" can prove successful. However, significant disappointments, frustration and anger can also occur when the personal success is not achieved (Lankford, 2016a). This is something that is commonly found in many of the mass shooters in the United States. These feelings are also intensified by the fact that many of these individuals believe that they deserve and are entitled to much more success than they have (Newman et al., 2004; Langman, 2009; Newman & Fox, 2009). Two key sources of strain are frequently reported by mass shooters as being the key motivations for their rage and need for vengeance. These are blocked goal achievement (such as being fired from work) and negative social interactions (such as experiencing bullying from colleagues in the workplace) (Fox & Levin, 1994; O'Toole, 2000; Newman et al., 2004; Duwe, 2007; Langman, 2009; Levin & Madfis, 2009; Newman & Fox, 2009; Lankford & Hakim, 2011). Seeking fame and glory through carrying out a mass shooting attack is often considered by some individuals as a way of achieving the high level of success they feel they are entitled to and deserve (Newman et al., 2004; Levin & Madfis, 2009; Lankford & Hakim, 2011; Lankford, 2013; Langman, 2015). They are aware that, by killing innocent people, they will gain the fame they so desire through the media coverage of their attacks (Lankford, 2013). Targets of the attacks are usually those that the perpetrator associates with their perceived mistreatment and symbolise the mass shooter's source of strain and failures (e.g., workplace, university, schools) (Newman et al., 2004; Langman, 2009; Newman & Fox, 2009; Lankford, 2015, 2016).

Recent studies have indicated that, in young people, there is a trend of increased desire for fame (Uhls & Greenfield, 2012; Greenwood, Long & Dal Cin, 2013; Rui & Stefanone, 2016). In the United States, it has been suggested that there has been a change in value systems towards individualism (Greenfeld, 2013). One explanation or contributory factor for this relatively recent increase in individualistic traits could be the increase in availability and access to communication technologies that promote self-display or self-focus (Park, Twenge & Greenfeld, 2014) and the crafting of one's image for the consumption of the virtual audience (Salimkhan, Manago & Greenfield, 2010). A study that was based on college students showed that social media were related with positive self-views (Gentile et al., 2012). In a study involving an online survey with adults in the United States, a significant positive correlation was found between the appeal of being visibly famous (e.g., appearing on the front page of a magazine) and both narcissism and active (versus passive) behaviors on Facebook and Twitter (Greenwood, 2013; Greenwood, Long & Dal Cin, 2013). One study found motivation for social status to be most strongly associated with reality television consumption (Reiss & Wiltz, 2004). Findings from research that has studied the content of preteen television has shown that fame is the number one portrayed value in the two top shows in 2007 (Uhls & Greenfield, 2011; Uhls, Zgourou & Greenfield, 2014). The social models who are admired by teenagers (and who teenagers aspire to be) have changed towards individuals who are more

self-focused (Cowen, 2000; Serazio, 2010). Self-focus is believed to be a feature of individualistic aspirations (Uhls, Zgourou & Greenfield, 2014).

Interestingly, Twenge and colleagues (2008) found increasingly narcissistic personalities in today's emerging adults compared to previous generations (Twenge et al., 2008). Narcissism is a personality characteristic that has been found to be associated with both fame (Raskin & Novacek, 1991) and individualism (Cai, Kwan & Sedikides, 2012). One study found that dispositional empathy (e.g., concern for other people) decreased between 1979 and 2009, with the most marked decline being observed after 2000 (Konrath, O'Brien & Hsing, 2010).

Does the internet and social media give these young men who become mass shooters the platform for the fame and notoriety that they seek?

Fame-seeking has been well recognized as a strong motivation for shooters engaging in their attacks. Pinker stated in an interview in the aftermath of the Newtown shooting that:

> It is a guaranteed way to get fame. In fact, it's the only guaranteed way to gain fame. If you decide your life is worth nothing, you're a nobody, you haven't made a difference, and you want to do something that guarantees that your name will be on the lips of everyone in the country, what are your options? There's only one, and that is kill a lot of innocent people.
>
> *(NOVA, 2012)*

This view is well-supported. Criminologist Adam Lankford from the University of Alabama said that "fame – or infamy – has emerged as a common thread in mass shootings since Eric Harris and Dylan Klebold predicted on videotapes left behind that their armed rampage at Columbine High School would be one for the history books" (Healy, 2016). The issue of whether the internet and other social media give these young men the platform for fame and notoriety has been raised in the academic literature (e.g., O'Toole et al., 2014). Lankford (2016b) highlighted that fame is increasingly "revered as the ultimate form of prestige-bearing success" in the United States. In this context, some mass shooters succumb to "delusions of grandeur" and pursue fame through extreme violent acts such as rampage shooting. Lankford's (2016b) study indicates that fame-seeking rampage shooters have been around for over 40 years. However, in the United States in recent decades, they have become more common. Interestingly, fame-seeking offenders appear, on average, younger compared to other types of rampage shooters, and they typically have a greater body count and injure more victims (Lankford, 2016b). Rodger stated in his autobiographical manifesto, "My Twisted World," that: "Infamy, is better than total obscurity" (Rodger, 2014, p. 137).

One strategy the fame-seeking rampage shooter might adopt to gain as much media attention as possible is to have a high victim count. Another strategy used by such offenders to attract as much media attention as possible is to choose targets or

adopt methods that will make them stand out because they have never been done before. James Holmes, the 2012 Aurora shooter, did not directly state that he had any desires for fame and attention. However, it is obvious that this individual orchestrated his attack in a way that made it dramatic and innovative. For instance, he carried out his attack in a movie theater, which was unprecedented. Also, for the attack, he dyed his hair orange in order to resemble the comic book villain "the Joker," and he chose to carry out his attack on the first night of *The Dark Knight Rises*' highly anticipated release (Lankford, 2016b).

In the United States over the past nearly two decades, narcissistic rage and, even more notably, narcissistic injuries appear to be the "common thread" in terms of the motivating factors in many mass shooters (Chung, 2014). Murray (2017a) recently examined a small sample of mass shooters (including Adam Lanza and Elliot Rodger). Murray argues that, although they externalise the blame for what they perceive is a miserable life, they know on some level that they are to blame for this. However, their fragile sense of selves does not allow this self-blame. In order to increase their concept of self, these individuals "compensate by convincing themselves that they see what's lying beyond the ordinary of perception. They believe they have self-awareness and are superior to all of society" (Murray, 2017a, p. 1184).

The pathway to intended violence: opportunity for threat assessment

Adolescent mass shootings are considered to be a "special subset" of mass shootings. It is a popular belief that adolescents who perpetrate an attack exhibit no obvious "red flags" or warning signs that could have been identified in the lead up to their attack (Rice & Hoffman, 2015) or that, during preparations, they will avoid publishing their intentions (Langman, 2014). However, this is a misconception as mass murder very rarely involves the individual "snapping" in an impulsive explosion of rage. Instead, the preparations for their attacks can take place over days, weeks or even months as opposed to being a sudden, impulsive episode (Fox & Levin, 1994, 2012; Verlinden, Hersen & Thomas, 2000; Vossekuil et al., 2002; Madfis & Levin, 2013; Walkup & Rubin, 2013; Fox & DeLateur, 2014; Cohen-Almagor, 2014). Pre-offense knowledge of specific and generalized threats in an offender have been found in up to three quarters of third parties (Meloy, Hempel, Mohandie, Shiva & Gray, 2001). Kevin Cameron, who is an expert in traumatic stress, has argued that "Serious violence is an evolutionary process" (Strachan, 2006, p. 18).

Prior to their attack, there are many cases of mass shooters who have displayed warning signs in various forms, including: posting text, photographs or videos online (Veijalainen, Semenov & Kyppö, 2010; Lindgren, 2011; Lindberg, Sailas & Kaltiala-Heino, 2012; Langman, 2014). For example, Elliot Rodger posted online his "Day of Retribution" video, which he made before he killed six people and injured 14 others near the campus of University of California, Santa Barbara in 2014. Prior to his attack, Rodger also sent his friends, family, his teachers and his therapist a 107,000-word "manifesto" he wrote entitled "My Twisted World" (Rodger, 2014). In another case, Pekka-Eric Auvinen, the Finish school gunman,

posted a video titled "Jokela high school massacre 11/7/2007" on YouTube the day before the attack. There is some support for the idea that adolescents are more likely to communicate their intentions (frequently unintentionally and indirectly) in the lead up to the attack when compared to adults (Meloy et al., 2001; Aitken et al., 2008). Lastly, Eric Harris and Dylan Klebold, the Columbine killers, extensively prepared for their attack for over a year (Larkin, 2007). Madfis (2014) examined many cases of mass shooters who were thwarted and found that there was evidence of extensive levels of preparation for school shooting attacks.

Misogyny

As highlighted by Van Brunt and Lewis (2014), there are a number of shooters who specifically targeted women in their attacks. Frequently, these attacks are motivated by a failed romantic advance and/or frustration over their inability to develop an intimate relationship (Van Brunt, 2012). An example of this is the case of George Sodini, who was frustrated that women who were 30 years younger than him were not interested in him romantically, which led him to engage in his shooting attack at an LA Fitness gym (see Greenwood, 2009; Leinwand, 2009; Fuoco & Gurman, 2010). There are a substantial number of male shooters who, frustrated, irrational, alone and hopeless took their vengeance out on the women they perceived have wronged them in some way. For instance, Kipland Kinkel (who carried out the Thurston High School shooting, which took place on May 21, 1998 in Springfield, United States) wrote the following statement in his journal prior to his attack:

> Every time I talk to her, I have a small amount of hope. But then she will tear it right down. It feels like my heart is breaking. But is that possible. I am so consumed with hate all of the time. Could I ever love anyone? I have feelings, but do I have a heart that's not black and full of animosity. I gave her all I have, and she just threw it away. Why? Why did God just want me to be in complete misery? I need to find more weapons. My parents are trying to take away some of my guns! My guns are the only things that haven't stabbed me in the back. Every time I see your face, my heart is shot with an arrow. I think she will say yes, but she doesn't, does she? She says, "I don't know." The three most fucked up words in the English language.
>
> *(Van Brunt, 2012, p. 22)*

Although Kipland's attack did not directly target women, his writing indicates that he had feelings of loneliness and experienced romantic frustration, which may have been factors that contributed to his attack (other factors would also have been involved) (Van Brunt & Lewis, 2014). Mass killers typically fantasize about the powerful feeling they experience when using a rapid-fire assault weapon that can kill scores of people in a very short space of time. There are some mass murderers who have "hands-on" sadistic fantasies similar to that of a serial homicide offender. However, the fantasies of the majority of sadistic mass killers "tend to involve

deeply misogynistic feelings, anger or hatred for women—including indignation over having romantic overtures repeatedly rejected" (Murray, 2017). For instance, Elliot Rodger, who killed six people and injured 14 others near the campus of University of California, Santa Barbara, before killing himself (Murray, 2017a).

Narcissistic rage

Chung (2014), consistent with some earlier studies (e.g., Kohut, 1972), found that, over the last 20 years or so, narcissistic rage (in particular, narcissistic wounding) is one of the commonly found motivations in mass shooters in the United States. Narcissistic rage has been associated with homicide (e.g., Malmquist, 1996). Malmquist (1996) described a mediating mechanism of "narcissistic rage" that may explain the relationship between narcissism and homicide. Malmquist argues that the individual with a narcissistic personality disorder accumulates injuries to their self-esteem due to injustices they have experienced over time (real or imagined). This idea of collecting injustices (the "injustice collector") has been discussed in detail by O'Toole (2014, 2015) and has also been described by others (e.g., Langman, 2009). Due to these repeated "wounds" to their self-esteem, the individual starts to develop the ideation that he must rectify the situation by destroying those who have injured him (Faccini & Allely, 2016). Only then will they regain a "sense of mastery… and control" (Malmquist, 1996) over their lives. Due to the longstanding and repeated wounding, the retaliation is considered to be completely justified and there is a disproportionate degree of brutality, even torture and sadism (Allely & Faccini, 2017).

A case study of Dylann Storm Roof

On June 17, 2015, Dylann Storm Roof shot nine people at an Emanuel African Methodist Episcopal Church in Charleston, South Carolina. Later, he was apprehended by police, charged and found guilty of all of the Federal and State charges, and was incarcerated in United States Penitentiary, Terre Haute (USP Terre Haute).

Arrest history

Roof was arrested on July 13, 2005 for being in the possession of a controlled substance, namely, Suboxone. Suboxone (a prescription medicine that contains the active ingredients buprenorphine and naloxone) is used to treat opiate addiction. Since he was five years old, he reported that he had shoplifted when high on two occasions. However, there were no arrests. He was arrested at the mall on February 28, 2015 after he asked employees at Bed, Bath, and Beyond a number of suspicious questions while looking very nervous (such as, how many employees there were, when the store closed and when they left the mall). On March 13, 2015, a search was conducted of his car at the mall and ammunition for an AR-15 and six

40-round magazines were found. He was banned from the mall for a year and was arrested when he returned on April 2, 2015. When a search was made of his car, the police found four 30-round magazines, two 40-round AR-15 magazines, a box for ammunition for an AR-15 with 300 bullets, a fore grip and a four-way rail system for an AR-15, but no weapons were found. On April 26, 2015 he was arrested for trespassing (Ballenger, Evaluation of Competency to Stand Trial, 2016).

Forensic psychological evaluations

In their paper, Allely and Faccini (2019) outlined the clinical profile and the pathway to intended violence in the case of Roof. They provide a summary of the forensic reports produced by the clinicians who evaluated him. Specifically, five clinical professionals conducted evaluations of Roof (Loftin, 2016; Robison, 2016; Maddox, 2016; Moberg, 2016; Ballenger, Evaluation of Competency to Stand Trial, 2016, and Second Competency Evaluation Report, 2017). The reports produced by these professionals are now unsealed and publicly available. One of the professionals, Dr Rachel Loftin, who is a psychologist, was retained by Roof's defense attorneys in June 2016 in order to conduct a psychological evaluation of Roof, particularly if he met the diagnostic criteria for autism spectrum disorder (ASD). Following the evaluation carried out by Dr Loftin, who is a highly respected specialist in the assessment and treatment of both children and adults with ASD, Roof was found to fulfill the diagnostic criteria for ASD. Loftin's finding was, primarily, based on the Autism Diagnostic Observation Schedule, Second Edition (ADOS-2; Lord et al., 2012), which is considered to be the gold standard instrument for autism assessment. The other measures that Dr Loftin administered during her evaluations of Roof were: Scales of Independent Behavior, Revised (SIB-R; Bruininks et al., 1996); Comprehensive Assessment of Spoken Language (CASL; Carrol-Woolfolk, 1999); Test Of Problem Solving, Second Edition (TOPS; Bowers & LoGiudice, 2007); Behavior Rating Inventory of Executive Function-Adult (BRIEF; Roth & Gioia, 2005); and the Wechsler Adult Intelligence Scale-Fourth Edition (WAIS-IV; Wechsler, 2008) – Comprehension Subtest. In total, Dr Loftin evaluated Roof over six sessions (19 hours in total). Dr Loftin also carried out a number of interviews with some of Roof's family members. Specifically, his mother, father, sister, paternal grandparents, paternal uncle and paternal aunt. It is also useful to highlight here that Dr Loftin's evaluation followed the multi-method assessment of ASD that is strongly advocated by Volkmar, Siegel, Woodbury-Smith, King, McCracken and State, in their article that was published in 2014, "Practice Parameters for the Assessment and Treatment of Children and Adolescents with Autism Spectrum Disorder."

Dr James Ballenger, MD, in the Second Competency Evaluation Report of January 1, 2017, gave the following statement: "Although there may have been examples of some autistic traits as a child, there is no credible and convincing evidence that these traits have any significant effect on his competency to stand trial or

to function as his own counsel at this point" (Second Competency Examination Report, p. 18) and that there was also "no evidence that this is the case in his first evaluation and continues to find no evidence that he has developmental disabilities or mental illness that are controlling or even significantly influencing his decision making" (Second Competency Examination Report, p. 17); and therefore he considered Roof competent to stand trial in both of his evaluations. Dr Paul J. Moberg Ph.D. in his "Neuropsychological and Facial Anthropometric Evaluation" of Dylann Roof (Moberg, 2016) did not diagnose Roof with ASD. However, a screening tool or diagnostic instrument for ASD was not included as part of the battery of neuropsychological assessments that were carried out by Dr Moberg during his evaluation of Roof. Some examples of the assessments used were: selected subtests from the Delis–Kaplan Executive Function System (D-KEFS); Wisconsin Card Sorting Test (WCST); Auditory Consonant Trigrams (ACT); Variability Toolbox; Memory and Learning Function: California Verbal Learning Test—Second Edition (CVLT-II); Logical Memory subtest from the Wechsler Memory Scale-IV (WMS-IV); Brief Visuospatial Memory Test-Revised (BVMT-R); Rey-Osterrieth Complex Figure (ROCF); Immediate and Delayed Recall; Warrington Recognition Memory Test (WRMT); Language and Related Functions: Behavioral observation; Sentence Repetition from the Multilingual Aphasia Examination (MAE) and the Comprehension of Complex Ideational Material from the Boston Diagnostic Aphasia Examination (BDAE). He does make the comment, however, that the data would indicate "a neurodevelopmental disorder with psychosis spectrum features" (Moberg, 2016, p. 11). However, what this neurodevelopmental disorder is exactly is not specified. However, it is worthy to note that this was not the focus of the report. Instead, the focus of the report was on the outcomes following the battery of neuropsychological procedures that were conducted.

Robison (2016) in his "Final Report for Defense Counsel" outlined in detail a broad range of traits/behaviors that were exhibited in Roof, which were consistent with a diagnosis of ASD, therefore supported the diagnostic conclusion reached by Dr Loftin (2016) in her evaluation. Dr Robison's conclusions were based on a range of sources including interviews he had with counsel regarding the defendant's appearance and behavior during their interactions with him; interview with Roof (as reported in his Nov 19 Declaration); interviews with Roof's mother (Amy Roof) and grandparents (Joe and Lucy Roof); review of video visits (which were held in the Charleston detention facility) between Roof and family members; review of confession; review of school and medical records; review of Roof's journals and website and also a review of personal photos provided by defense counsel (Robison, 2016, pp. 2–3). Dr Robison reviewed videos of visitations between Roof and his sisters, his mother and her boyfriend, his father and his grandparents. Across all the videos with different visitors, Dr Robison identified some points of commonality across all the interactions that were all "driven" by Roof. For instance, he displayed a tendency to fixate on the most trivial issues in interactions. For example, he spent 10 minutes during one exchange asking questions about whether his grandfather and uncle would eat one, two or three meals together and why his

grandfather would want to do this. The intensity of the questions and the point of them confused his grandfather. He, nevertheless, attempted to answer him with good humor (Robison, 2016, p. 4). Roof's grandfather asked him a question about his tooth – "Is that a chipped tooth you have there?," to which Roof responded "No, they are just crooked." His grandfather suggested that they needed to get him to an orthodontist. As soon as his grandfather suggested this, Roof burst out laughing and continued to giggle for some time. He then said that there are no orthodontists in jail and started talking about how terrible dental care is in jail, and how they pull your teeth out for the slightest problem. His responses made his grandparents visibly distressed. This is a typical example of the inappropriate reactions individuals with ASD can exhibit during interactions with others (Robison, 2016, p. 5). Dr Robison also reports on Roof's expression. During several hours of video that he reviewed, Roof, most of the time, had a slight smirk. Nothing he said suggested he was in a state of continuous amusement. However, in individuals with ASD, it is common to see fixed and unexpected facial expressions (Robison, 2016, p. 6). Furthermore, Dr Robison noted that Roof never gave any indication that he was frightened or concerned about what was going to happen to him. It is clear that he was aware that the prosecutors were seeking the death penalty. This lack of visible anxiety indicates a "profound disconnect from the grave reality of his situation" (Robison, 2016, p. 6).

Lastly, Dr Maddox (2016) made the following statement in her report that:

> In the course of my evaluation of Dylann Roof over these past eight months, I have consulted with Dr. Loftin and reviewed her affidavits and report, and relied on the same (along with my own training, experience, observations and review of collateral information and interviews) in forming my opinion that Dylann Roof is properly diagnosed with Autism Spectrum Disorder
>
> *(Maddox, 2016, p. 18)*

The types of sources reviewed by Dr Maddox included discovery, records and interviews. Social history records that were provided by the defense were reviewed by Dr Maddox. The records also included birth records, medical records and Lexington County Mental Health records. Also reviewed by Dr Maddox were parts of the discovery material that was provided by the government, including Roof's videotaped interview by the FBI and the text that he posted on the Last Rhodesian website. The Last Rhodesian was a website he ran that contained photos of him posing with symbols of white supremacy, along with a manifesto that outlines his views towards minorities. On nine occasions, Dr Maddox met with Roof, which totalled about 25 hours. Additionally, every time that Dr Maddox met with Roof, she conducted a Mental Status Examination (MSE), which is "a structured assessment of the patient's behavioral and cognitive functioning. It includes descriptions of the patient's appearance and general behavior, level of consciousness and attentiveness, motor and speech activity, mood and affect, thought and perception, attitude and insight, the reaction evoked in the examiner, and, finally, higher cognitive

abilities. The specific cognitive functions of alertness, language, memory, constructional ability, and abstract reasoning are the most clinically relevant" (Martin, 1990). Dr Maddox also conducted interviews with a number of Roof's family members, including his mother, Amy Cowles Roof; his paternal grandparents, Joe and Lucy Roof; and his father, Benn Roof. Dr Maddox also made a visit to Benn Roof's home and also Roof's bedroom, which was located in Danny Beard and Amy Roof's residence (Maddox, 2016, pp. 1–2).

Overall, three out of the five forensic evaluators were in agreement that Roof did have ASD (namely Loftin [2016], Robison [2016] and Maddox [2016]). Regarding the two forensic evaluators that did not say this (Dr Ballinger and Dr Moberg), it is important to note the following points. Dr Ballenger (2017) was of the opinion that: "there may have been examples of some autistic traits as a child" (Second Competency Evaluation Report, p. 18) and Dr Moberg (2016) diagnosed "a neurodevelopmental disorder with psychosis spectrum features." (Moberg, 2016, p. 11). Allely and Faccini (2018), in their paper summarizing the case, consider strongly that Dr Loftin's conclusion that Roof met the diagnostic criteria for ASD as most compelling and well substantiated – in addition to being based on a multimethod procedure that has been advocated as a standard best practice when evaluating someone for an ASD as mentioned earlier in this chapter.

It is interesting to note that, during evaluation, Roof said that he wanted to stop the assessments as he did not want to be embarrassed in court. Additionally, he said that he would also feel embarrassed if his Wikipedia page referred to him as having a mental illness or would make him appear uncool. Relating to this, he made the following comment: "I am not worried about the death penalty. I am worried about being embarrassed" (Loftin, 2016, p. 40). Roof says that this fear is not because of any personal agenda related with his racist beliefs. Instead, it is to do with personal embarrassment. A defense request for an independent competency evaluation predominantly centered on ASD was denied by the Court. However, at the hearing, the defense offered evidence of an ASD diagnosis, which was provided by Dr Loftin following her detailed evaluation. The Court also heard the testimony from another expert in ASD from the Medical University of South Carolina (MUSC), psychologist Dr Laura Carpenter. Dr Carpenter described how in individuals with high intellectual quotient (IQ) and ASD, the symptomology of ASD can still be "disabling."

Loftin's psychological evaluation: Autism Spectrum Disorder

As mentioned earlier in this chapter, Dr Rachel Loftin, a psychologist, was retained by Roof's defense attorneys in June 2016 in order to conduct a psychological evaluation of Roof, particularly if he met the diagnostic criteria for ASD. Roof was found to fulfill the diagnostic criteria for ASD. Autism spectrum disorder (ASD) is a neurodevelopmental condition. ASDs are characterized by social communication and social interaction difficulties and restricted, repetitive behaviors or interests (RRBIs) (American Psychiatric Association, APA, 2013). RRBIs characterizes

behaviors that can include repetitive motor movements, sensory reactions, rituals, routines and restricted interests. In the *Diagnostic and Statistical Manual of Mental Disorders* (DSM–5, APA, 2013), the subtypes of ASD have been abandoned (e.g., autistic disorder and Asperger's Disorder) and there is now a single category of ASD (Maenner et al., 2014). The next few sections will provide an overview of the detailed report produced by Dr Loftin. In particular, focusing on the following areas: social communication in adolescence and young adulthood; deficits in reading and using nonverbal communication; difficulty understanding, developing and maintaining appropriate social relationships; restricted-repetitive behaviors and interests in adolescence and adulthood and his preoccupation with racism (a summary of the findings by Loftin can also found in the paper by Allely and Faccini, 2019).

Social communication in adolescence and young adulthood

Roof's social-communication challenges, which were identified in childhood, continued to get progressively worse during his adolescence and young adulthood. At the same time (beginning in ninth grade), Roof also started experiencing a worsening of his other psychiatric symptoms – social anxiety, delusional beliefs, disordered thinking, paranoia. His mother said that he had always been an extremely quiet and withdrawn socially individual. He was also very difficult to engage with in conversation and would rarely ask people questions unless it was related to a special interest that he had. In more recent years, both paternal grandparents and also his Uncle Joe described Roof as sounding like he was quoting someone when he spoke. For instance, his grandfather said that he sounded like a political talk radio show (e.g., Rush Limbaugh) (Loftin, 2016, p. 22). The findings from formal measures of language demonstrated that he had largely unimpaired language skills but there were areas in which he showed impairment. For example, his score on a measure that assesses pragmatic or social use of language (CASL, Pragmatic Judgment) indicated that he was at the level of a typical 14-year old. This finding would indicate that Roof had an understanding of language that should be used in some situations such as making requests or extending an invitation to a friend. However, the findings from this measure showed that he experienced difficulty with knowing what to do in situations of increased social complexity such as clarifying a request or introducing two people to each other (Loftin, 2016, p. 22).

In his first meeting with Dr Loftin, he started talking right away about controversial right-wing radio programs (e.g., talking about the Jewish hosts of these right-wing radio programs). He made a number of pejorative remarks regarding Jewish people, demonstrating while doing so no apparent recognition or appreciation that such remarks could be viewed as offensive by other people. He appeared to Dr Loftin to also be genuinely naïve whenever he talked about the aftermath of his actions. Indeed, such genuine naïveté regarding the aftermath of his actions has also been noted by numerous family members of Roof's. They reported that he does not appear to understand why they were so upset by what he has done. For

example, Roof's grandfather said to Dr Loftin that: "I don't think he realizes we've been affected." (Loftin, 2016, p. 26) and gave the following exchange to demonstrate this. During a videotaped visitation, his grandfather informed Roof that his grandmother was upset about his actions and about his incarceration. He appeared incredulous about this and his response to this comment was that she "should be over it," that it had been a year (Loftin, 2016, p. 26). Dr Loftin observed that he appeared to be genuinely confused, which suggested to her that he genuinely could not imagine the reason(s) why his grandmother would be upset. He was clearly having some difficulty in imagining his grandmother's perspective and what she is feeling and thinking. This difficulty in taking another individual's perspective (or understanding and appreciating that another person's thought, beliefs and feelings can be different to your own) is something that is referred to as a "theory of mind" deficit or impaired "theory of mind" (Loftin, 2016). An impaired theory of mind is frequently found in individuals with ASD. However, it is useful to highlight here that an impaired theory of mind does not mean that individuals with ASD do not have empathy. There is often the misconception that individuals with ASD lack empathy. For instance, an individual will not necessarily recognise that a loved one (e.g., family member) is crying and upset and ask them how they are. This relates to an impaired theory of mind. However, if the loved one (the family member) explains to the individual with ASD that they are feeling upset and the reasons for this, the individual with ASD will very often experience empathy for that family member. Roof, like the majority of individuals with ASD, exhibits a tendency to fixate on individual details at the expense of the bigger picture (or larger meaning) of situations. An example of this can be seen in Roof's confession interview with FBI agents. He was cooperative in answering any questions they asked him. His answers indicated that he had very little understanding of the enormity of what he had done and its consequences (Loftin, 2016).

Roof performed quite well on the cognitive assessment that is used to evaluate primarily fact-based social knowledge (WAIS-IV). However, findings from the formal measures of social problem-solving ability (TOPS-2), which included scenarios of social situations, revealed specific areas of impairment. He could come up with solutions to problems where he needed to make inferences and determine possible solutions. However, when he was tested on the social elements of problem solving, his performance was about that of a middle school student. He also displayed an impairment in being able to interpret other's perspectives and his performance on this was found to be at about the level of a 14-year old. Impairment in being able to imagine yourself in another person's place would have a negative impact of that individual's ability to respond appropriately. Roof's ability to transfer learning from one situation to another was also impaired and was assessed at the level of a 13-year, 3-month old. This type of impairment is typical in individuals with ASD (Loftin, 2016).

Deficits in reading and using nonverbal communication

Regardless of the topic that was being discussed, Roof had a broad, goofy grin throughout the majority of the evaluation with Dr Loftin. When not grinning, his expression was either flat, an exaggerated "thinking" expression or an expression of exasperated disbelief whenever Dr Loftin admitted to not knowing something. When he was talking about topics of interest to him, his expression was considered to be adequate. However, it was observed by Dr Loftin that there was an odd repetitiveness to his self-expression. Each time he displayed an expression of disbelief, it was precisely the same expression, which also included a repetitive motion of eye rubbing. Roof himself had highlighted concern about smiling at inappropriate times during the court proceedings. He appeared to smile whenever he was feeling nervous and, whenever he was uncertain about exactly how to behave in certain situations, he used smiling as a coping strategy (Loftin, 2016).

Loftin also noted that Roof's laughter lacked a reciprocal quality (not laughing for social reasons). During the videotaped interrogation Roof had with the FBI agents and during his evaluation with Dr Loftin, he frequently displayed inappropriate laughter. Dr Loftin observed that, during the interrogation, he tended to laugh under three conditions. First, when the other person said something that was unexpected to him as if he is incredulous that someone is asking the question. For example, he laughed in response to a question about whether he disagreed with the end of the film *American History X*, in which the lead protagonist stops behaving as a racist (Loftin, 2016, p. 28). Second, he tended to laugh when he is feeling uncomfortable or self-conscious. For instance, he laughed when one of the interviewers described him as skinny. However, he was actually very self-conscious about how thin he was (Loftin, 2016, p. 29). Moreover, he occasionally laughed in the same tone when there is no obvious reason. Dr Loftin posits that this may be a repetitive vocalization, which is consistent with a diagnosis of ASD (Loftin, 2016, p. 29).

Individuals with ASD commonly laugh with more voice tone (a tone that resembles their speaking voice) more often compared to individuals with no diagnosis of ASD. He did not engage in any other types of laughter (e.g., alternating between voice laughs and a range of other types of laughter sounds such as breathy laughs or snorts, which are usually displayed by typically developing individuals) (Loftin 2016, p. 29). The descriptions that Dr Loftin made of Roof's inappropriate laugher and smiling in her report is important to consider. It can have a detrimental impact on the individuals during the criminal justice process. For instance, when they appear in court as the defendant and make awkward or inappropriate facial expressions or behaviors (such as inappropriate laughter when their alleged victim is being questioned in court). It can have a negative impact on how the jury and the judge perceive that individual and, ultimately, on the outcomes and sentencing decisions (Freckelton & List, 2009; Allely & Cooper, 2017). Given this, it is crucial that ASD is identified and taken into consideration as early as possible during the criminal justice process. This will help to ensure that the defendant with ASD is given a fair trial (see Cooper & Allely, 2017 which

discusses the evolving professional responsibilities, liabilities and "judgecraft" when a party has an ASD).

Dr Loftin observed during her evaluations with Roof that he occasionally was able to maintain appropriate levels of modulated eye contact. However, although there were some instances where his gaze would be uncomfortably intense, his gaze was viewed as being absent or avoidant at many important social junctures. When he spoke, Roof did use gestures that were descriptive and emphatic. However, his use of gestures could be considered odd. It was apparent that he used only a limited range of gestures and would execute them in a repetitive way or there would be occasions where his movements would be almost non-existent. Every time he would execute exactly the same sequence of movements (Loftin, 2016, p. 53). Interestingly, Roof himself admitted that, with his eye gaze and gestures, he is "faking all the time" (Loftin, 2016, p. 29) because it is not something that comes naturally to him. It appeared obvious that, by admitting this to Dr Loftin, he was acknowledging his difficulty in social situations (Loftin, 2016).

Difficulty understanding, developing and maintaining appropriate social relationships

Roof's difficulty understanding, developing and maintaining appropriate social relations was evident in the evaluations that Dr Loftin carried out with Roof. Dr Loftin found that Roof was impaired with respect to his social insight. He said that he currently had no friends. Even though he made the statement that, "I've had friends in the past," he only could name one person (Jack Chandler). When he was asked to describe what friends are, his response was that they are people who "spend time with you" and "are nice to you." Additionally, friends "share with you" and "you've known them for a while. You get along and have common interests." (Loftin, 2016, p. 30). These types of responses are considered to be very immature. Although he mentioned shared interests, his descriptions would suggest not very much reciprocity and provide information focused solely on what the other individuals would do for him. With regards to his history or experience of sexual relationships, when Dr Loftin asked any questions about issues such as dating and sexual relationships, he appeared to be embarrassed. He would become flushed and looked down, but with no change in affect and would refuse to respond to any questions regarding dating relationships. When he was pressed further on this issue by Dr Loftin, he admitted that, unlike how he felt prior to his incarceration, he now wished he could have had a dating relationship. The scores from the adaptive behavior scale (SIB-R), an assessment that provides age equivalent scores to correspond to parent report of observed behaviors, revealed that Roof's social behavior was rated by his mother at the level of a 9 years and 3 months old individual. There are some aspects of this score that may be associated with his social anxiety, however there are a number of items that are directly related to social skills. Lastly, a number of Roof's family members reported that he strived to appear to others as "cultured." Such striving to appear "cultured" was also exhibited during his evaluations

with Dr Loftin. For instance, he was eager to engage in a discussion about travel to Europe, speaking in French and other topics of conversation that he considered to be cultured during evaluation sessions with Dr Loftin (Loftin, 2016).

Restricted-repetitive behaviors and interests in adolescence and adulthood (preoccupation with racism)

Roof had a history of having numerous intense interests (throughout later childhood and during his adolescence). Some examples of these intense interests included: Star Wars, Maple Story (which is a computer-based videogame), Bionicles, dogs, history/historical sites, being "cultured" and dinosaurs. Roof's preoccupation with racism was all consuming. Concerns were not just focused on African Americans as he would also write about his negative beliefs and stereotypes about other minority groups (including homosexuals, women and Jews). There is also some suggestion that he had some unusual sensory interests or aversions. For instance, Roof's mother said that he had a history of being particular about things being clean and his clothes. He had started wearing two pairs of trousers at the same time (pants if you are in the United States). One of the reasons for this might be the sensory function it can serve as double layers of clothing increase the feeling of compression, which is something that many individuals with ASD find comforting. However, it was suggested by Roof's mother that he did this in order to try and appear bigger than he actually was (Loftin, 2016). Individuals with ASD can also experience sensory sensitivity to noise, smells, textures, etc. It may be that Roof had a sensory sensitivity to sounds. This is tentatively suggested by the following comment he made in a jailhouse journal, which was discovered by staff in the detention center just six weeks following his arrest for his attack: "Sometimes I think it would be nice and peaceful to be deaf. Specifically to go deaf. Ideally I wish I could just be very hard of hearing, like a very old person" (Roof, 2015, p. 33).

Roof was exposed to extreme right-wing ideology on the internet. His disordered thinking and autistic preoccupation coupled with getting no exposure to competing points of view resulted in racist thought became all-encompassing to him (the most important thing that he had in his life) (Loftin, 2016). Internet searches relating to racial content were carried out by him as early as 2008. During an evaluation session with Dr Loftin, Roof explained that, following the case of Trayvon Martin who was shot in 2012, he became "racially aware," which led him to Google "black on white crime" online. He says that when he carried out that Google search, he was confronted with FBI statistics that he alleges illustrated staggering rates of White women raped by Black men. He never appeared to question any of the statistics he encountered online (Loftin, 2016).

Both the intensity of Roof's interests and the intensity with which he pursued his interests is characteristic of individuals with ASD (note that the interest of race in itself is not associated with ASD). He spent a substantial amount of time researching "black on white crime" in addition to other race-related topics. One of the potential explanations for why racist ideas were so appealing to Roof may be

due to his ASD and OCD-like symptoms, specifically the strong need for order. The racist ideology he immersed in on the internet offered a clarity and rigidity of racial categories that enabled Roof, an individual with poor social insight and ability, to understand high level social behaviors, to "organize people and make sense of the world" (Loftin, 2016, p. 55).

Additionally, as highlighted by Fisher, Moskowitz and Hodapp (2013), individuals with ASD may be particularly vulnerable to being influenced by things they see or read online. As pointed out by Loftin (2016), Roof displayed a literal style of communication that needs to be considered in light of his reading of false data and information online (relating to race). He would take everything he read online literally and at face value and not think to question anything he was reading or consider seeking alternative view points to the ones he was reading (Loftin, 2016, p. 53). For nearly all the questions he had, he would look to the internet for answers (Maddox, 2016). Dr Robison reported that Roof, in his interview with the FBI, "would assure the agents that the Internet was his only source of racial knowledge. He said he had not talked to friends or family because, in his words, they would not approve" (Robison, 2016, p. 12). Dr Robison also highlighted that "Autistic people who absorb fringe ideas may know that 'other people' believe differently, but they become certain they know the truth. They may even begin to feel privileged, being one of a small number of people who know the secret. Fringe sites like Stormfront really foster that thinking" (Robison, 2016, p. 22).

In her report, Dr Loftin notes that Roof said that the "more extreme views he encountered online were off-putting at first, but he got more and more accustomed to them as he continued reading" (Loftin, 2016, p. 49). He had nobody guiding or supervising his learning and searches online. His world was reduced to only the ideas he had and the ones he read online and the internet sites he chose to visit. The internet taught him hate-filled ideas that were predominantly race related and crucially, "Mr. Roof had nobody to dispel those ideas in a concrete, meaningful way" (Maddox, 2016, p. 8). At the same time, it is argued that he was first exhibiting the signs of psychosis. Over time, he became progressively more and more controlled by fear (both with respect to his racist beliefs and about his own health) (Maddox, 2016).

Increasing isolation and lack of relationships

Numerous concerns have been raised with regards to the quality of Roof's socialization even from a very young age (Loftin, 2016). His yearly wellness checks (in particular as he reached the eighth and ninth grades), showed that all his time was spent on his computer in isolation (Maddox, 2016). However, despite the findings at these wellness checks, etc., no intervention was ever sought. His feelings of stress in social situations become progressively worse with anxiety to such a degree that eventually he hardly ever left the house. This situation was not helped by the fact that he received no support for the developing of appropriate social skills. It has been argued that he self-medicated by using drugs and alcohol. Roof's thinking

became "increasingly disconnected from reality" the more time he spent isolated in his room on the internet coupled with the mental health disorders he was experiencing (Loftin, 2016, p. 36). Roof completed his last semester of high school that he had initially attended in person and later started an online program in May 2010. Amber, Roof's sister, stated that he had been living in his room on his computer for approximately five years before the shooting. His father said that he started being more aware of the isolation around the time that he dropped out of Dreher High School. As reported by his father, he did not even leave his mother's house, not even to go to the mailbox on the road in front of his mother's house. It was reported by his mother that he would nap during the day and be up all night (Loftin, 2016).

Roof and his family members report that he had one true friend, Jack Chandler, who tragically died in a car accident. He did have acquaintances, but they were not what would be considered real friendships. There is also nothing to indicate that he had ever dated or had an intimate relationship. Such social isolation impacted on the level of contact he had with the outside world. He, therefore, did not receive alternative viewpoints from friends about issues that concerned him. Therefore, his racist and violent beliefs developed largely unchallenged by others. In the lead up to his shooting, Roof, while under intoxication, talked with some peers about his plans. However, no one believed him as his thoughts at this stage were so out of control and disconnected from reality (Loftin, 2016, p. 54). Roof isolated himself in his room and very rarely worked or socialized with anyone. His days were free for him to engage in his "unhealthy preoccupations" (Loftin, 2016, p. 52).

Lastly, detention center staff found a journal written by Roof six weeks after he was arrested for the fatal shooting. One excerpt is taken from it that captures Roof's thoughts about self pity and feelings of sadness, which highlights the complex nature of his psychological profile:

> I enjoy self pity. It gives me great delight to pity myself. I am a realist, a strict one. I never, ever, ever lie to myself in order to make myself feel better or more comfortable. I think this may be my best, strongest trait. I also, like many other people, find it pleasurable to be sad. I "get off" on it. I wonder why so many people enjoy being sad. I think it may be that they can be sad while remaining comfortable. So they can experience sadness without hardship, and therefore can feel a strong emotion, that much of the time is easier to induce than happiness, without suffering … any real injury from it.
>
> *(Roof, 2015, p. 35).*

Psychiatric comorbidities

Roof was diagnosed by Dr Mubarak with anxiety disorder because he was not leaving the house at his 18-year old well check. In spring of 2009, he went to the Lexington County Community Mental Health Center where he told staff that being around people and also people looking at him caused him anxiety. This was

something that he was worried about "all the time" (Loftin, 2016, p. 41). He also reported obsessive compulsive (OC) symptoms where he would repeatedly urinate and check the door locks and also reported having panic symptoms. A history of transient OC symptoms (e.g., repeated hand washing) was reported by Roof. It was suggested by the therapist that Roof was taking drugs to self-medicate (alleviate his symptoms of anxiety). He refused to go to any other sessions at the Center and refused to take the anti-anxiety medication that had been prescribed to him. His mother said that Roof believed there was nothing psychologically wrong with him. When he was a teenager, he was painfully self-conscious and, because he thought other people would look at him, he would not go out. For instance, he insisted that his mother did not stop alongside other cars in traffic because the people inside the other cars would look at him. His symptoms of anxiety (in particular his self-consciousness and social anxiety) are significantly more severe than you would typically see from ASD by itself. His symptoms of anxiety were severe enough to have a negative impact on his critical decision-making processes (Loftin, 2016).

Roof's mother reported that she worried "a lot" about whether he was experiencing depression – although she said there were no indications that Roof was suicidal. In October 2008, he began carrying out searches on the internet for specific types of guns (e.g., "how to get a glock") as well as searches for lethal doses of medications that could be obtained over the counter. In March 2009, Roof made a visit to the Lexington County Community Mental Health Center, saying that he was feeling suicidal. Based on the records, he told his mother he would run away and kill himself. Later, he told the therapist that he said this because he did not want to return to school. Roof's visits to his pediatrician, over the years, revealed that he had lost 10 pounds between his well checks at ages 16 and 17. Roof's isolation got progressively worse during this time (Loftin, 2016).

There is evidence that Roof may have been experiencing depression during the lead-up to the attacks. He posted an advertisement on Craigslist in February 2015, wanting someone to come with him on a historic tour of Charleston, which would involve identifying prominent sites that were related to Black history. There was a caption with the ad he posted that said: "No Jews, queers, or niggers" (Loftin, 2016, p. 44). For Roof, the real aim was to tour sites that were symbolic of past "white supremacy" (e.g., sites where the plantations were) and other sites where he would be able to take pictures with racist symbols such as "1488," which is the supremacist code. Dr Thomas Hiers recognized the photo and companion request of Roof on Craigslist.com, looking for a companion to tour different historic sites. Dr Hiers decided to contact him and offered to pay him to watch some TED talks (25 cents per talk). He received a response thanking him for his offer, saying that he seemed like a nice man. The poster of the ad [which is believed to be Roof] then wrote the following, "I am in bed, so depressed I cannot get out of bed. My life is wasted. I have no friends even though I am cool. I am going back to sleep." Following this response, Dr Hiers got in touch with a professional colleague who said he would help. Dr Hiers wrote back with the following: "My friend would like to take you out to lunch—he will try to help you get your life moving." There

was no response to this offer. Following reports of the shooting in the news, Dr Hiers got in touch with the local police and reported the contact that he had had with Roof on Craigslist.com (Loftin, 2016, p. 44).

Disordered thought: delusions, paranoia, and other unusual thinking

Dr Loftin (2016), in her report, highlighted that, over the years, Roof had numerous highly unusual symptoms that were indicative of disordered thinking and a disconnect from reality. He was also described as being odd or weird by a variety of individuals who had interviewed him. In the months leading up to the shooting, evidence of atypical behavior was even more pronounced. This is important to emphasise as atypical behavior is frequently an indication of a mental health disorder, most notably psychosis (see Thompson et al., 2014; Loftin, 2016).

Unusual thinking

In her psychiatric evaluation, Dr Maddox (2016) details that Roof had consistently expressed preoccupation with various somatic beliefs, some of which are delusional. For instance, Roof believed that he had a "lopsided" head. He also held the belief that the right side of his ribcage is smaller when compared to the left, and he said that the right side of his body is a "eunuch." He also held the belief that the left side of his face, especially along the jaw-line, is masculine and the right side is "feminine." Not only did he believe that there was a difference in size between his right and left ribcage, but he also believed that there was a difference between the size of his legs (specifically that his right leg is shorter than his left). Also, that his left foot was flat, the left side of his chest was bigger or had more muscle, his right arm was bigger compared to his left arm. The explanation that Roof gave for these perceived defects was that the testosterone that is in his body "pools" on the left side of his body. Even when he was faced with evidence that there is no significant difference following careful measurement of his legs by a physician, he still continued to maintain the belief that one leg was shorter than the other despite what the physician was telling him. Another issue that preoccupied him was losing his hair and he began recording hair loss while in jail (Maddox, 2016). Roof also expressed the "complex somatic delusion" that included an imbalance of testosterone, which had led to one half of his body being less well developed compared to the other half during his evaluation with Dr Loftin. He explained that problems with his thyroid were what was causing this. Dr Loftin does note in her report that Roof does have a very minor thyroid dysfunction. However, it is not something that needs medical attention (Loftin, 2016).

Roof informed Dr Maddox that it felt like he was losing his eyelashes (during one visit, he told Dr Maddox that two eyelashes fell off). Dr Maddox was also informed by Roof that he had lost seven pubic hairs. He felt that his hair was becoming thinner and was concerned he was going bald. He declared that he

would take his own life (by hanging himself) if he eventually had to resort to shaving his head because of imminent baldness. Also, if he went bald before his trial, he said that he would kill himself (Maddox, 2016). A somatic preoccupation with his forehead was also identified as Roof said that his forehead was abnormally wide [this may be the reason he adopts the style of haircut that he does, a bowl cut he has had since childhood, which covers his forehead]. Before the charges were made, he exhibited a preoccupation with the notion that he had cancer of the lymph nodes. He demonstrated his preoccupation with his thyroid condition during each evaluation and even requested research that explored thyroid disease and its treatment. He says that he is afraid to start his treatment for his thyroid condition. His fear was that, if he began taking medication and a race war started, then he would not be able to keep taking his medication so was afraid to start taking it. He stated that salt triggers or exacerbates his thyroid and, because of this, he carefully monitored his levels of salt intake every day, believing that iodized salt is "increasing the fullness of his thyroid gland" and resulting in his hair loss. During each visit, Roof required that Maddox spend some of the time discussing his concerns about his thyroid (Maddox, 2016, pp. 3–4).

Grandiose beliefs

Dr Maddox also identified a number of grandiose beliefs that Roof held. For instance, he thought that if he met the federal prosecutors, they would not give him the death sentence because they would like him. He also believed the same of Judge Gergel (if he was the one that would be sentencing him) because Judge Gergel had smiled at him and that must mean that he likes him. He also believed that if prosecutor Scarlett Wilson met him, she would also like him and would withdraw her request for the death penalty. He also told Dr Maddox that, when the race war starts, the prison guards would side with him and a "coup d'etat" will take place. Roof had said that the guards would help him escape out of prison when this occurs. He believed that the chances of him getting a death sentence was only "30%" (Maddox, 2016). Roof also informed Dr Loftin that, if he got the death penalty, he did not expect to die as he believed that he will be rescued when "the race war breaks out." On a later date during evaluation, Roof also advised Dr Loftin that she should move away from Chicago because it was so densely populated with African Americans, while all the other parts of Illinois are not. Roof argued that when "the race war breaks out," Illinois' Whites will gather in Chicago to fight, and that she would not want to get involved in that. He also told Dr Loftin that, at his trial, things would "get ugly." Dr Loftin queried him on this remark, which hinted at some form of violence, but Roof refused to provide any detail about what he meant by it.

Interestingly, Roof did not exhibit any expression of fear regarding a worst-case scenario when he made these types of remarks. Instead, his tone of voice was emphatic, as if he knew for sure what was going to happen (Loftin, 2016). With respect to the charges against him, he believed that he was compelled, he personally

"had to" do something. It is Roof's belief that he will go down in history (which he says is something different to being famous). Lastly, the amounts of "hits" he is accumulating on his Wikipedia page is also something that he is preoccupied with and he made the statement that the amount of views that you get on your Wikipedia page determines your level of importance (Maddox, 2016, p. 4).

Paranoia: a sense that the world is unsafe, threatening and rejecting

Dr Loftin found significant evidence for paranoid thinking in Roof. Before discussing these, it is useful to note here that an individual's belief in racist ideas or conspiracy theories are not necessarily related to mental illness. It is when someone feels compelled to act on their extreme or racist (for example) ideas (or their choices and behavior are controlled to a great extent by these ideas) they can crossover to psychosis (Campbell & Morrison, 2007 as cited in Loftin, 2016). Evidence of paranoid thinking in Roof was also found by Dr Maddox (2016), who found that Roof's thought content is mainly of paranoia and suspiciousness, which were at severe enough levels to have a negative impact on his functioning.

Dr Maddox highlighted a number of observations that she made during her assessment of Roof, including: his preoccupation surrounding the notion that someone will stab him "150 times," bringing this up on two separate occasions and using the exact same figure of the number of times he would be stabbed. In the past he has researched and believed in a number of different conspiracy theories (e.g., that vaccinations cause leukemia). He was preoccupied with his belief that he lives in an unsafe world (Maddox, 2016) and also "preoccupied with the idea that white people are under attack" (Maddox 2016, p. 9). In Dr Loftin's report, she also noted that his feelings of unsafety included a fear of being contaminated from contact with chemicals and cleaners. For instance, Dr Loftin noted in her report that Roof told his mother that she was not allowed to use dusting sprays or any other type of cleaning product in his bedroom. He was fearful of any chemical residue that such products might leave (Loftin 2016, p. 46). Specifically, Dr Loftin noted in her report a discussion that Roof had during one of the video-recorded visitations that took place on August 21, 2016 with his parents. Specifically, Roof talked to them about something called chemtrails. Chemtrails is the name for the conspiracy theory that the government pumps chemicals into the sky using airplanes. Roof believed that the government are spraying lithium (a mood stabilizer that is used to treat bipolar disorder) in the chemtrails (Loftin, 2016, p. 46).

Diagnostic conclusion: summary

Maddox (2016) diagnosed Roof (to a reasonable degree of medical certainty) with the following:

1. Autism Spectrum Disorder (requiring support) with no comorbid intellectual impairment, and no comorbid language impairment;

2. Other Specified Schizophrenia Spectrum and Other Psychotic Disorder (Attenuated psychosis);
3. Other Specified Anxiety Disorder;
4. Alcohol Use Disorder, In a Controlled Environment;
5. Hashimoto's Thyroiditis*.

   *Hashimoto's thyroiditis is a condition in which your immune system attacks your thyroid, a small gland at the base of your neck below your Adam's apple. The thyroid gland is part of your endocrine system, which produces hormones that coordinate many of your body's functions. Inflammation from Hashimoto's disease, also known as chronic lymphocytic thyroiditis, often leads to an underactive thyroid gland (hypothyroidism).

Dr Maddox argues that each of the first three conditions diagnosed above impacted significantly on Roof's functioning in the lead up to his attack, during the attack and after. In August 2013, Roof was experiencing increasingly worsening social isolation and was also experiencing identity confusion. Other people his age were progressing, going to college, getting jobs, leaving home, etc. While, on the other hand, he was not progressing with his life at all. He was still living in a bedroom in his mother's boyfriend's home at the age of 19–21 – with no responsibilities. He rarely left his bedroom, let alone the house. Additionally, his ASD "impaired his ability to understand and interact with the world around him" (Maddox, 2016, p. 7). Without appropriate social support, he progressively worsened and became more disconnected from reality.

As discussed in detail in Dr Maddox's report, Roof is at the age where symptoms of schizophrenia spectrum disorders are most likely to begin to emerge. The symptoms that were exhibited in Roof at the time that Dr Maddox carried out her evaluations with him are consistent with what is referred to as attenuated psychosis syndrome according to Dr Maddox's professional opinion and expertise (Loftin, 2016, p. 45). Dr Loftin (2016) also notes in her report that, among Roof's comorbid psychiatric symptoms, the symptoms of psychosis that he displayed are the ones that give the most cause for concern. He displays evidence of delusions and paranoia and also atypicality, which are features consistent with a diagnosis on the schizophrenia spectrum. In his psychotic thought process, there is evidence that Roof has irrational beliefs. Dr Loftin makes the suggestion that psychotic thinking might impact Roof's "behavior by causing him to feel compelled to act and by rendering him unable to interpret reality from delusion or fantasy" (Loftin, 2016, p. 51). The comorbidity of ASD and psychosis (even emerging as potentially in the case of Roof) is important to consider in light of some of the findings from the research. ASD by itself is not an intrinsically violent disorder. It is not a necessary condition to propel an individual down the pathway to intended violence. For instance, the presence of additional psychotic illness (which is now well-established as being strongly related with violence) may increase the risk of the individual engaging in offending behavior (Wachtel & Shorter, 2013). Wachtel and Shorter (2013) have argued that "there may be a kind of one-two 'vulnerability punch,'

giving individuals with ASD a baseline higher risk of comorbid psychiatric illness, not infrequently including psychosis" (p. 404). This may have been what was happening in the case of Roof – why he was potentially more vulnerable to acting on his ideas and beliefs.

On November 5, 2016, the Court received notice that Roof had written an unsolicited letter to the Government prosecutors (Dkt. No. 546). In the letter, Roof denounced and disavowed what he understood to be his attorney's planned mental health mitigation defense in the sentencing phase of his trial (Dkt. No. 545). Roof stated that he had only recently learned of the proposed defense because "my attorneys purposely kept me in the dark." His letter characterized the mental health defense as a "lie" that had been developed by his attorneys without his consultation or approval. He also went on to describe the defense as a "pathetic, fraudulent excuse for a defense in my name." (Dylann Roof Summary of the Competency Hearing, unsealed in 2017, p. 3–4). Roof stated that his feelings on this matter were so strong that he would rather face the death penalty than have the mental health mitigation evidence offered to the jury. It was argued by the defense counsel in the motion that Roof's letter to the Government prosecutors "raises serious questions regarding Defendant's competency." (Dylann Roof Summary of the Competency Hearing, unsealed in 2017). Additionally, detention center staff found a journal written by Roof six weeks after he was arrested for his attack. There is an excerpt in it that also highlights how he believes there is nothing wrong with him and also how he hates psychology:

> I don't like it when people try to read into things, or try to find or create meaning that isn't there. I don't like it when people put so much weight on the things I say. Sometimes, more now than before the incident, I feel that the people I talk to hang on my words as if they were all important or offer some sort of insight into my being. But this isn't the case; it never is with anyone. This is part of the reason I hate psychology. A psychologist, often with more mental issues than their "patient" proceeds to put labels on them and tell them they have issues that they don't really have, and half the time are completely invented "diseases" that have no scientific foundation.
>
> *(Roof, 2015, p. 37)*

Case study – Elliot Rodger

On May 23, 2014, 22-year-old Elliot Rodger (a City College student no longer attending classes), embarked on a "premeditated, murderous rampage" in Isla Vista Santa Barbara, California killing six people, himself and injuring 14 others. His attack began by surprising and brutally stabbing to death his two male roommates as they each returned to the apartment, and then an unknowing friend of theirs who later came to call on them. Then, that evening, he emailed a 107,000-word (137-pages) autobiographical manifesto, which he titled "My Twisted World," to his parents, his life coach, some acquaintances and professors, and a number of his

medical and mental health providers. At the same time as sending this autobiographical manifesto, he also uploaded to the internet a self-made video entitled "Day of Retribution" (White, 2017). Both the autobiographical manifesto and his self-made video described his severe anger, frustration, loneliness, anxiety and unhappiness (Brown, 2015). Several hours after stabbing his roommates and their friend, and very shortly after sending his autobiographical manifesto and video, he drove to a sorority house and shot three women who were standing outside, killing two of them. He then drove to a deli where he shot to death a male student. He then sped through the streets, injuring other people by either shooting or hitting them with his car. He engaged in two separate gun-battles with sheriff's deputies and was shot in the hip before he took his own life (Brown, 2015).

The autobiographical manifesto – "My Twisted World"

The autobiographical manifesto that Rodger emailed on the day of the attacks describes his childhood, family issues, his frustration at not having a girlfriend, his lonely miserable life, his rejection by women and his hatred not only for women but also their boyfriends because they got to experience what he could only fantasize about (Murray, 2017). On June 4, 2011, Rodger decided to move to Isla Vista in Santa Barbara, California. He hoped that by moving to Isla Vista he would be able to make friends and get a girlfriend (Brown, 2015). However, he continued to experience difficulty with interacting with his peers and was unable to make any friends and approach females. He became progressively more and more angry over his perceived rejection by women and this would intensify whenever he saw couples together. What particularly upset him was that he remained a virgin (Brown, 2015).

In his autobiographic manifesto, Rodger alternates between referring to himself as being a weak, invisible, good guy to being a magnificent, superior god who argues that a tall, beautiful, blonde girlfriend will give him recognition from others. Eventually he gives up on the idea of a girlfriend and plans a "Day of Retribution," which would primarily target the women, whom he blames for rejecting him, and secondarily the men whom he believes that women prefer over him and who were able to enjoy pleasurable sex lives with beautiful women (Myketiak, 2016). His manifesto contains a substantial number of misogynistic rants (Murray, 2017) where he talks about his need to punish all females for having deprived him of sex (Rodger 2014, p. 132). He was filled with rage, anger and envy whenever he saw couples together and writes a number of times in his manifesto his feelings when he sees couples together (Murray, 2017). Rodger made a statement in his manifesto that is just one example of his sadistic fantasies to seek revenge. He described how he would look outside his windows on occasions and see young people talking to each other. He also saw drunk boys chatting up pretty women and would wonder if they would be having sex later that night. He stated that he would fantasize about bursting into their rooms while they were having sexual intercourse and slashing them with his knife (Rodger 2014, pp. 88–89).

Rodger had originally planned his "Day of Retribution" to consist of three phases, which he outlined in his autobiographical manifesto. The first phase would involve killing his two roommates in order "to get them out of the way" and he would then turn his apartment into his own private chamber where he would torture and kill (see Rodger, 2014, p. 132). He describes how he would lure people to his apartment where he would torture and kill them. He goes on to describe how he would flay them, stripping all the skin away from their flesh and then, while they were still alive, pouring boiling hot water all over their bodies. When they were dead, he states that he would remove their heads and keep them all in a bag for a later stage. (Rodger, 2014, p. 132). His second phase would involve a "War on Women" (Rodger, 2014, p. 132) where he would try to kill as many women as possible inside the Alpha Phi sorority house. He would go to the Alpha Phi sorority house at 9 pm and sneak in to kill all of them with his knives and guns and, if he had the time, set fire to the whole house (Rodger, 2014, p. 132). The final phase of the "Day of Retribution" would involve his "ultimate showdown" (Rodger, 2014, p. 132). The ultimate showdown would begin with him killing his younger half-brother in order to deny him the chance of growing up to surpass him (Roger, 2014, p. 132) and step-mother, then taking his father's Mercedes SUV to go to Isla Vista in order to run down as many pedestrians as he possibly could. He wrote that he planned to shoot anyone he was unable to crash into. He would then proceed to Del Playa Street and "dump the bag of severed heads" (Rodger, 2014, p. 133) into the street and ingest Xanax, Vicodin and alcohol before engaging in a shooting rampage and then shoot himself in the head (Allely & Faccini, 2017).

Throughout his autobiographical manifesto, Rodger writes about his frustrations and rage towards women and their boyfriends. While at Starbucks, Rodger saw a couple kissing passionately and he describes being, "livid with envious hatred" (Rodger, 2014, p. 87). Rodger followed the couple, when they left Starbucks, to their car and flung his coffee over them. Through physically showing his hatred for the couple he was able to gain a sense of power. It made him feel good being the aggressor for a change (a feeling of control that he had not had his whole life) (Murray, 2017). Murray has argued that this was a critical turning point for Rodger, where he started to release his anger outwards and became even more immersed in his intensely graphic sadistic fantasy world, which centered around violent retribution (Murray, 2017). From this point onwards in the manifesto, examples of sadistic fantasy become more frequent (e.g., Rodger, 2014, p. 87). Numerous incidents where Rodger threw drinks on couples that displayed affection in public and women who rejected him occurred after this first incident (Murray, 2017).

Rodger says that women are sexually starving him because of his rejection by females and described them as being "vicious, stupid, cruel animals" (Rodger, 2014, p. 117). He could not understand why women did not like him as he was magnificent, the supreme gentleman. He took no responsibility for this and believed only that women's sexual attractions were flawed as they were attracted to, what he saw as, the wrong type of male (Murray, 2017). He referred to women as being like a plague and that they do not deserve to have any rights (Rodger, 2014, p. 136).

He then went on to say that all women should be quarantined and starved to death, although he states that some should be kept alive for reproductive purposes only. These women who are spared would be kept, bred and artificially inseminated in secret laboratories. (Rodger, 2014, p. 136). He is not just immersed in a "blameful misogynistic fantasy world." By this stage he has crossed over into a sadistic fantasy world that includes both torture and murder, which is similar to that of the sexual sadist serial homicide offenders. In order to stop the rejection from women, gain power and respect, he sees violence as being the only option (Murray, 2017).

The online video posted by Rodger: "Day of Retribution"

Rodger not only wrote about his plans for his "Day of Retribution," but spoke about his feelings of loneliness and vengeance in a number of self-recorded videos, which he posted online (Murray, 2017). The most notable example is a video he created titled "Day of Retribution." In this video, he makes the following statement: "On the day of retribution, I am going to enter the hottest sorority house at UCSB [The University of California, Santa Barbara] and I will slaughter every single spoiled, stuck-up, blond slut I see inside there. All those girls I've desired so much. They have all rejected me and looked down on me as an inferior man if I ever made an advance toward them while they throw themselves at those obnoxious brutes" (Garvey 2014).

Early history

Elliot Rodger was born in London in 1991. When he was five years old, he moved with his parents to Southern California. His father, Peter Rodger, was a freelance photographer and film director (mainly of commercials). He directed some scenes from the film *The Hunger Games*. His mother, Chin Rodger, of Chinese descent, had worked as a nurse on film sets. She decided to stay at home in order to raise Elliot and his younger sister (Santa Barbara County Sheriff's Office, SBCSO, 2015). When Rodger was seven years old, his parents divorced. Throughout his childhood and adolescence, his parents were concerned about their son and would make sure he had received different kinds of professional help and other types of support (SBCSO, 2015; White, 2017). He got speech therapy for a lisp when he was seven years old. He was "believed to display characteristics of high functioning autism or Asperger's syndrome… but no formal diagnosis was found among the material reviewed by detectives" (SBCSO, 2015, p. 52). ASD is a heterogeneous set of conditions including persistent impairments in reciprocal social communication and a restricted, repetitive pattern of behaviors and interests. On a number of occasions, he was provided special education resources. There is evidence that states that at the age of 16 he was diagnosed with Pervasive Development Disorder – Not Otherwise Specified (SBCSO, 2015). According to both his parents and the Sheriff's report, Rodger has no known history of violence and no criminal record prior to his attacks (SBCSO, 2015; White, 2017). When he was 15 years old, Rodger was

prescribed anti-anxiety medication (Xanax) and an anti-depressant (Prozac), which he took for about a year. It is reported that he was depressed and having suicidal thoughts, but medication appeared to make no difference (SBCSO, 2015). He was also prescribed Paxil (another type of anti-depressant). He took this only occasionally. Interestingly, in his autobiographical manifesto, Rodger does not make much reference to his mental health providers. In the few times that he does refer to them it is typically in a matter of fact way or to criticize them. He also does not refer to any clinical diagnosis (White, 2017).

Prior interactions with the criminal justice system

Investigations have highlighted that Rodger had numerous interactions with the Sheriff's Office. The most notable one took place on April 30, 2014, a few weeks before he carried out his attacks. On April 30, a welfare check was carried out by six members of the Isla Vista Foot Patrol (usually a welfare check is only carried out by two members). Rodger's mother had been in touch with his life coach, informing him of the disturbing videos he had uploaded onto YouTube. The life coach then contacted Santa Barbara County Mental Health, which prompted the welfare check (Brown, 2015). Additionally, a number of months before his attacks, he attended a party where he attempted to push a young woman off of a 10-foot ledge. He was also observed at the time shooting at partygoers with an imaginary gun. Given these odd and inappropriate behaviors, he was eventually reported to the police. He was interviewed by the police, but no charges were filed (O'Toole, 2014).

Clinical presentation

Rodger left a lengthy autobiographical "manifesto" and social media posts that provide insight into his frame of mind and indications surrounding his motivations, etc. White (2017) has stated that Rodger presents a complex diagnostic and psychodynamic case, which comprises of likely features of autism spectrum disorder (ASD), narcissism, psychopathy and depression. Extreme social isolation and severe, pathological envy were also contributors to his attacks. It is clear that he devoted a significant amount of time to writing his autobiographical manifesto and it arguably became one of his preoccupations on his pathway to intended violence (White, 2017).

A range of suggested diagnoses and clinical suggestions have been posited, including claims of him having Asperger's Syndrome (Duke, 2014), psychosis and psychopathy (Langman, 2014) and also descriptions of him as being an "injustice collector" (O'Toole, 2014). [More information on the concept of the "injustice collector" and how Rodger fit this concept is outlined later in this chapter under the section headed: "Injustice Collector"]. However, Brogaard (2014) suggested that Rodger exhibited a number of features that are consistent with narcissistic personality disorder (NPD), including his sense of grandiosity; his idealized mission

to get a girlfriend who was a beautiful, blonde, tall girl; his sense of entitlement; his self-perception as being "special;" his manipulation of others, and his display of envious and arrogant behavior (Langman, 2014). Duke (2014) referred to divorce documents that stated that, when Rodger was seven years old, he was diagnosed with Asperger's Syndrome. It was also reported by his mother that he was a high functioning autistic child with special needs. A review of Rodger's autobiographical manifesto (Rodger, 2014) is not suggestive of having been written by someone who has significant difficulties with communicating his thoughts and experiences – although he does acknowledge that he is "shy" on numerous occasions throughout the autobiographical manifesto (Rodger, 2014).

However, it is important to note here that individuals with ASD may have a difficulty in communicating their thoughts and experiences verbally to other people, but are not so impaired (or not impaired at all) when writing them down. He wrote about the empathy he felt towards his good friend James, when his mother died of cancer. However, it is a misconception that individuals with ASD have a lack of empathy. As noted in more detail elsewhere in this book, individuals with ASD do have empathy. Also, it is uncertain whether Rodger exhibited any preoccupations or intense interests. He describes his escape into video-games as a way of coping (see Rodger, 2014, p. 39). These ideas regarding a possible uncertainty surrounding whether he exhibited any of the symptoms that may be consistent with an ASD are speculative. Only a valid and reliable ASD diagnostic tool (e.g., the Autism Diagnostic Observation Schedule Second Edition, ADOS-2, Lord et al., 2012) would be an appropriate clinical means to establish if he did have ASD. As a result, there will not be any functional analysis linking ASD as being a key contributor to the attacks he carried out (Allely & Faccini, 2017). It is crucial to stress the point that simply having a diagnosis of ASD and NPD will not propel an individual down the path to intended violence – they are not sufficient diagnoses by themselves, other factors are also necessary (e.g., psychosocial stressors, childhood adverse factors) (Faccini & Allely, 2016).

In sum, for many years, Rodger had been receiving treatment for mental health issues. However, nothing in his behavior, even right up to the attack, was in any way alarming or would be considered red flags to the mental health professionals who met with him (Brown, 2015). Rodger was taking Xanax in 2014. It had been prescribed to him just a few months before he carried out his attacks. He said Xanax helped him manage his anxiety (SBCSO, 2015).

Narcissistic rage

It has been argued that Rodger had a severe NPD (e.g., Brogaard, 2014). Myketiak (2016) pointed out that, in his autobiographical manifesto, Rodger describes himself as being full of rage (e.g., Rodger, 2014, pp. 84, 87, 121) towards men he has ethnically othered (believing his ethnicity to be superior to all others) for dating white, blonde women. Primarily because, by having done this, they are upsetting his understanding of who is entitled to enact hegemonic masculinity. He thinks that

women's "rational" choice would be to choose him, because he identifies as a half-white, over these other men (Rodger, 2014, p. 17, 84, 121).

Increasing isolation

During his time in Isla Vista, Rodger had no known friends and there is no evidence to suggest that he socialized with any of his classmates while he attended Santa Barbara City College (SBCC). He also had very few friends while he grew up in the greater Los Angeles area. Following his move to Isla Vista, he kept only limited contact with some of his friends. As noted in the Sheriff's report and as reported by many who knew him, the pervasive issue that Rodger experienced in his youth was his extreme difficulty with social interaction and his difficulty making friends (SBCSO, 2015).

"Injustice collectors"

The idea of an individual who collects injustices, who are referred to as "injustice collectors," has been suggested by O'Toole (2014, 2015) and also described by others (e.g., Langman, 2009). Injustice collecting is often a lifetime pattern, which involves having perceptions of being victimized by others through slights that can be small and insignificant. These slights can also be real or imagined. The injustice collector magnifies and perceives these real or imagined slights as being purposeful, personal and deliberate. More often than not the collector of injustices is able to recall with significant detail the events surrounding their negative interactions with others. They also frequently like to keep notes, lists, legal records or other miscellaneous documentation to keep track of their progressively growing list of grievances. Typically, their versions of events are distorted, embellished or misinterpreted entirely. Mary Ellen O'Toole, Ph.D., was one of the most senior profilers for the FBI until her retirement in 2009. Based on her extensive experience, she believes that injustice-collecting behavior begins early in life and that it can be detected by family members, friends and others. O'Toole also stresses that if the injustice-collecting behavior is recognized early enough, it can be managed and potentially treated (O'Toole, 2014).

Throughout his life, Rodger accumulated a sense of women having wronged him (Langman, 2014). In his autobiographical manifesto, he includes a number of grievances that dated back to his childhood. He writes repeatedly in his manifesto about his hatred towards women. O'Toole observed that he writes with a significant amount of specificity and detail, which would suggest that he has not relied on memory for these events but has instead "kept copious notes contemporaneous in time to events" (O'Toole, 2014, p. 98). As "injustice collectors" accumulate increasingly more injustices, they start to develop an ideology and view of the world that consists of themes of being discriminated against, victimized, mistreated, bullied and disrespected. Fantasies involving revenge feel appropriate and logical to them (O'Toole 2000, 2014). This resulted in Rodger spending increasing amounts

of time in a fantasy world. Previous research has indicated that this kind of withdrawal into fantasy is used as a way to cope with a life of misery and boredom in both adolescent and adult mass murderers (Hempel, Meloy & Richards, 1999; Meloy, Hempel, Gray, Mohandie, Shiva & Richards, 2004).

Rodger not only was an injustice collector but, as observed by Langman, he was also extremely sensitive and had a "masochistic obsession" with his own pain and suffering (Langman, 2014). As Rodger got closer to his "Day of Retribution," the sadistic fantasies he had towards couples (particularly college-age couples and those displaying affection in public) increased to the extent that he now wants to flay them when they are alive (Rodger 2014, p. 91). At this stage, he is not just seeking the comfort of a blameful misogynistic fantasy world, he has gone beyond this into a sadistic fantasy world that includes torture and murder – similar to the sadistic fantasy world of a serial homicide offender (Murray 2017, 2017a).

Rodger was able to satisfy, feed and obtain justification for his misogynistic and sadistic fantasies by joining the online chat club called "Pua-Hate.com" (Murray, 2017). Males who join this chat room can find comradery with other males who have also been rejected by women. Most members of this organization call themselves "incels," which stands for involuntary celibacy (Glasstetter, 2014). In this forum, Rodger made the following comment: "If we can't solve our problems we must DESTROY our problems." In part of another reference about "incels," Rodger stated "Start envisioning a world where WOMEN FEAR YOU" (Glasstetter, 2014). Rodger makes a number of comments in his manifesto that show that, despite the connection he feels towards the other men in this club, he considers himself as supreme and much stronger than them (Murray, 2017). Murray (2015) states that:

> Due to [the killer's] mordant bitterness toward self and others, these suicidal – homicidal individuals often fantasize not only about escaping, but rather transcending their feelings of inadequacy, self-doubt, and worthlessness by having society see them as powerful, clever, and superior for pulling off a massacre and making (in their view) oppressive people pay.
>
> *(Murray, 2015, p. 581; see Murray, 2017a)*

Psychotic features: from avoidant to schizotypal

It is clear that all mass shooters are different in terms of their psychology, life experience, motivation and the nature of attack they perpetrate. Langman (2009) presented a typology that includes three categories of shooters, which are: psychopathic, psychotic and traumatized. The psychopathic shooters are characterized by extreme narcissism, lack of empathy and no regard for morals and laws. The psychotic shooters are characterized by symptoms of schizophrenia or schizotypal personality disorder. The traumatized shooters are characterized by having histories involving numerous types of abuse. Langman (2014) considers Rodger to fall into two psychological types, namely, psychopathic and psychotic. Although there are no

indications that he was floridly psychotic or flagrantly psychopathic, he did display both psychotic and psychopathic features. The analysis carried out by Langman (2014) was based predominantly on the insight provided by Rodger's autobiographical manifesto (Rodger, 2014).

There have been a number of shooters who appeared to have exhibited features consistent with avoidant personality disorder (avoidant PD). Avoidant PD is characterized by severe levels of shyness, social anxiety, inhibition and lack of confidence. As they continue through adolescence or young adulthood, they begin to disconnect from reality to varying degrees. Dr Theodore Millon (1996) has described this progression as possibly being the development of schizotypal personality disorder out of a pre-existing avoidant personality disorder. Some examples of shooters who have undergone this development include: Marc Lépine, Luke Woodham, Dylan Klebold and Pekka-Eric Auvinen, and also Elliot Rodger. Similar to these other shooters, Rodger experienced severe levels of social impairment during his life. Millon (1996) points out that schizotypals frequently withdraw from the real world and create rich fantasy worlds where they are powerful and exalted, which act as a coping strategy against their overwhelming sense of inferiority, for example. Indeed, this process can be seen in the case of Rodger, who makes repeated reference to his feelings of inferiority and eventually came to regard himself as being superior to all of humanity (Langman, 2014).

He eventually came to regard sex as the source of misery and proposed abolishing sex completely (Langman, 2014). Rodger appears to have a grandiose view of himself in addition to having a bizarre, misogynistic ideology about eliminating women, love and sex. Rodger was out of touch with reality in terms of his own identity and had strange ideas and beliefs, which is frequently seen in schizotypals (Langman, 2014). Another example of the strange ideas and beliefs that he had was when he describes how he would spend thousands of dollars on lottery tickets because he was convinced he would win it. This would appear to be indicative of what is referred to as "magical thinking" rather than being a full-blown delusion. However, what it does suggest is how easily he started to believe his own fantasies. He also exhibits paranoid thinking. For instance, he believed that women were deliberately denying him their affection and sex and took great pleasures from doing this (Langman, 2014). He considered himself to be a victim of their "cruelty."

Psychopathic traits

Psychopathy is a disorder characterized by antisocial behavior and emotional impairment (e.g., a lack of empathy, fearlessness) and is distinguished most notably by interpersonal deficits. Rodger failed to take any responsibility for his social failures. He failed to understand or appreciate that his behavior had nothing to do with the fact that he does not have a girlfriend (Langman, 2014). He wrote in his manifesto (as well as described in videos he posted of himself on YouTube) about driving a BMW and wearing Armani and referring to how superior he was (for example,

see Rodger, 2014, p. 99). He was totally perplexed about why women were not throwing themselves at him despite how good he looked in his expensive clothes. When they did not do this, he viewed the reason for this as being a defect in the brain of women (see Rodger, 2014, p. 84).

Rodger also exhibited narcissism in his sense of entitlement. This can be seen in one of his statements in his manifesto, where he says that the girls deserve to be tortured and killed (dumped in boiling water) because they deprived him of the love and attention that he believes he rightfully deserved (Rodger, 2014, p. 100). He repeatedly talked about his rejection by girls and women as being an "injustice" and a "crime" throughout his manifesto (Rodger, 2014, p. 100). He also felt that he was entitled to having a lavish lifestyle (Langman, 2014). He blamed his parents for not giving him the lavish lifestyle he so desired and this was also expressed as rage (see Rodger, 2014, p. 102).

In addition to his entitled attitude, he also lacked empathy. He showed no concern about causing harm to others and even considered killing his younger half-brother, Jazz, because he believed that he would have success with women before he did (surpass him) (see Rodger, 2014, p. 127). Rodger also exhibited a sadistic streak on numerous occasions in his manifesto. For instance, when he talks about flaying boys who were sexually active (Langman, 2014). Lastly, Rodger's psychopathic traits also consisted of an element of sadism; a grandiose sense of himself as being superior and entitled to wealth and the gratification of his desires; a lack of empathy; an inability to recognize other people's needs and perspectives. The extreme narcissism in a number of psychopathic shooters, which was exhibited as a desire for fame (Langman, 2015), is also seen in Rodger, who similarly sought fame and notoriety (Langman, 2014).

Embodied, damaged and compensatory masculinity

Vito and colleagues (2018) investigated how masculinities are constructed using a thematic content analysis of Rodger's manifesto. Their analyses showed how Rodger "reproduces hegemonic gender ideologies through his construction of masculinity in relation to physical embodiment and sexual prowess" (p. 86). Men who have these particular traits are constructed as superior men and men who do not have these traits are inferior. Vito and colleagues (2018) suggest in their paper that Rodger draws on alternative masculine presentations in order to illustrate his manhood and feelings of masculinity. This is referred to as "compensatory masculinity" (Vito, Admire & Hughes, 2018). Rodger argues in his autobiographical manifesto that intelligence and civility are "true" forms of masculinity. He refers to these types of traits as being "gentlemen-like," and by doing this deems them to be "inherently masculine." By having these "inherently masculine" qualities, he is superior to males who only have the "dominant hegemonic ideals of masculinity" (such as height, strength, etc) (Vito, Admire & Hughes, 2018, p. 94). (for example of this, see Rodger, 2014, p. 82). His compensatory masculinity is demonstrated towards the end of this autobiographical manifesto when he writes the following

statement: "I am the closest thing there is to a living god." (Rodger, 2014, p. 135). He regards himself as being superior and embodying "true" masculinity as a way of compensating for his experiences of being marginalized by women and society. However, when he faces a crisis of masculinity and feelings of aggrieved entitlement when he does not achieve societal confirmation of his masculinity (with his inherently masculine qualities), his anger becomes directed towards racial minorities and women. Eventually, this leads him to adopt a violent masculinity and need for violent retribution (Vito, Admire & Hughes, 2018).

It has been pointed out that Rodger's sense of failed masculinity occurred before puberty and the sexual frustration he later experienced so intensely. Like many other shooters, Rodger was not "a good physical specimen" (Langman, 2015). Even from a young age, he demonstrated awareness of societal expectations regarding the "physical embodiment of masculinity." When he was a child, he felt that the boys who were taller got more respect and experienced frustration over his relatively small stature (see Rodger, 2014, p. 16). He desperately wanted to be taller. He held the unusual belief that he would get taller if he played basketball, so he decided to take up the sport. As well as playing the sport, he also had another unusual belief. This can be seen in one of his recollections from childhood where he would lie on his back on the basketball court and stretch his body out as much as he could (see Rodger, 2014, p. 16). He believed that lying on the ground in between basketball sessions at school would increase his height (Vito, Admire & Hughes, 2018). He viewed physical size and strength as being directly associated with masculinity – the bigger and stronger you are, the more masculine you are and the more masculine others will perceive you to be. It is also important to note that these qualities are *visible* representations of masculinity. Given this view, he related his relatively small stature with feeling small, weak and, most of all, worthless (Rodger, 2014, p. 47). Rodger viewed his body as being an unsuccessful example of embodied masculinity (Bordo, 1999; Ricciardelli, Clow & White, 2010) and viewed himself as being inferior to other boys/men who have these ideals of physical masculinity (Light & Kirk, 2000; Vito, Admire & Hughes, 2018).

Rodger's autobiographical manifesto reaffirmed the idea that women owe men sex. By failing to provide this pleasure they are challenging a man's sense of masculinity (Vito, Admire & Hughes, 2018; see example, Rodger, 2014, p. 81). Being unable to develop and maintain an intimate relationship with a woman, in addition to his belief that he deserved sex (is owed it), resulted in him blaming women and society for his feelings of loneliness and isolation rather than taking any degree of responsibility (Vito, Admire & Hughes, 2018; see example, Rodger, 2014, p. 82).

Rodger's "Path to Intended Violence"

Faccini (2016) argues that the path to intended violence model "presents with substantial face validity when applied to the mass shooting" (Faccini, 2016, p. 1). In a paper by Allely and Faccini (2017), the application of the path to intended violence model was presented as a plausible means of trying to identify the key contributing

factors that led Rodger to carry out his attacks. They suggested that, rather than suggesting Rodger's possible Asperger's Syndrome as being one of the key contributors to the mass shooting event, it highlighted the key contributor as being his narcissistic rage and its overlap with the path to intended violence. His narcissistic rage (which included his sense of injustice and his need for revenge) is one the key factors that propelled him onto the path to intended violence. The injustice that Rodger experienced during his life (either real or imagined), or grievances, set him on the first step of the path to intended violence. His ideation was that women, and the men that they were attracted to, should be made to pay for his suffering through violent retribution. Once Rodger viewed that violence is the only decision, he then carried on through the remainder of the stages of the path to intended violence – researching and planning, preparing, breaching security and finally his attacks during his "Day of Retribution" (Allely & Faccini, 2017). Upon review of the literature and careful analysis of Rodger's case, Allely and Faccini (2017) conclude that while these factors are likely more explanatory than factors related to ASD with regards to his mass violence, ASD may still have been a contributory factor. Not only could narcissistic rage and progression on the path to intended violence account for his attack, but the strongly indicated existence of Asperger's Syndrome or high-functioning ASD (identified by his mother or in court divorce documents) also have some contribution to the difficulties and frustrations that he suffered (Allely & Faccini, 2017).

Psychiatric comorbidities in individuals with ASD

It is crucial that there is not the assumption that ASD is a risk factor for extreme violence. However, there may be a very small minority of individuals with an ASD who do exhibit violent behavior (Allely et al., 2017). As emphasized in their paper, Allely and colleagues' (2017) research, which has investigated the psychological factors that contribute to extreme violent behaviors such as mass shooting, suggest that, in some cases, ASD may exacerbate other issues that are going on in the individual's life, which impacts on their ability to cope and engage in appropriate strategies to address the issues (e.g., Langman, 2009; Newman & Fox, 2009; Lankford & Hakim, 2011). Indeed, there is an increasing amount of research that is examining the common psychiatric comorbidities that are frequently found in individuals with ASD, including mood disorders such as depression and anxiety (e.g., Ghaziuddin, Ghaziuddin & Greden, 2002; Hammond & Hoffman, 2014; Matson & Williams, 2014; Moss, Howlin, Savage, Bolton & Rutter, 2015; Bruggink, Huisman, Vuijk, Kraaij & Garnefski, 2016), and behavioral disorders such as attention-deficit/hyperactivity disorder (ADHD) (e.g., Taylor, Charman & Ronald, 2015; Antshel, Zhang-James, Wagner, Ledesma & Faraone, 2016).

Importantly, no evidence exists for the theory that there is an increased risk of offending behavior in individuals with ASD (see review by King & Murphy, 2014). However, there may be an increased risk of engaging in offending behavior in individuals with ASD who also have a psychiatric comorbidity (e.g., Chaplin,

McCarthy & Underwood, 2013). These psychiatric "comorbidities may further intensify an individual with ASD's impaired ability to cope with problems in his or her life" (Allely et al., 2017, p. 60). Challenging behavior has also been found in a number of studies to be highly prevalent in individuals with ASD (Holden & Gitlesen, 2006). Another suggested contributing factor to increasing the risk of violence among individuals with ASD is a history of psychological trauma (Im, 2016). Specifically, Im (2016) has suggested that "individuals with ASD may possess sensitized prefrontal-cortical-limbic networks that are overloaded in the face of trauma, leading to unchecked limbic output that produces violent behavior, and/or cognitive dysfunction (including deficits in theory of mind, central coherence, and executive function) that impacts trauma processing in ways that portend violence" (Im, 2016, p. 184). It has also been suggested that early comorbid psychopathologies such as anxiety/depression, inattention, hyperactivity/impulsivity and oppositional behaviors may further impair later social adjustment (also referred to as adaptive functioning) in young people with ASD (Chiang & Gau, 2016).

The association between psychopathy and ASD in relation to violent crime has also been explored (Boka & Leibman, 2015). There have also been some studies that have found some evidence to suggest that ASD may be a "vulnerability factor" for the onset of psychosis (e.g., Nylander, Lugnegård & Hallerbäck, 2008). Findings from a Swedish national study of 422 individuals who were hospitalized with ASD revealed that, in those who had committed a crime, 25.8% also had a comorbid diagnosis of either schizophrenia or psychosis. This is much higher than the 9.2% of individuals with ASD who also had a diagnosis of schizophrenia or psychosis, but had no convictions for violent behavior (Långström, Grann, Ruchkin, Sjöstedt & Fazel, 2009). Therefore, having a psychiatric comorbidity may account for any association which is found between an ASD and violence (Newman & Ghaziuddin, 2008).

Clinical implications and recommendations

A particularly interesting study found that, since around the year 2005, presence in social network sites (SNS) was evident in all major school shooters. Some of these major school shooters also "leaked" their intentions on SNSs, which would have been substantial enough to have enabled an evaluation of their intentions to carry out the attack (Semenov, Veijalainen & Kyppo, 2010). There is a need for development of monitoring schemes for certain websites (Cohen-Almagor & Haleva-Amir, 2008). Cohen-Almagor (2014) later emphasized the need for the monitoring of potentially problematic websites by security agencies. Despite increasing levels of awareness concerning child pornography and hate speech, there is no such increased awareness with mass shooters who use the internet to publish their violent intentions (e.g., through blog posts and comments on forums). In order to reduce the number of violent acts, a two-pronged offensive should be implemented, consisting of operating a monitoring scheme and educating people to be alert and report online threats of violence. The question is which monitoring scheme could be effectively introduced for this. Cohen-Almagor (2014) highlights the potential forensic utility of an Integrated

Project known as the "Platform for Searching Audiovisual Resources across Online Spaces" (PHAROS; Debald et al., 2006). PHAROS enables personalized search results matching the user profile. PHAROS has been used for the detection of child pornography and racism online. In sum, Cohen-Almagor (2014) argues that the police should monitor specific websites and social networking forums that are well-known for their problematic violent content. Currently, even explicit threats that are made online prior to an attack do not necessarily result in police investigation (Cohen-Almagor, 2014). Mentioned above was the need to educate people to be alert and report online threats of violence. This is of significant importance in terms of online threats as well as threats made in other domains (verbal, pictures, etc). Research indicates that frequently these threats are not taken seriously. For instance, although school shooters often "leak" their violent intentions to third parties (Fein et al., 2002), these intentions are frequently not taken seriously by their peers and community more widely. For instance, Roof, prior to killing nine black churchgoers in Charleston, South Carolina, told a friend about his desire to kill people and start a race war. The friend reported that he did not believe Roof (Follman, 2015). This highlights the need for education and the establishment of tip lines and other routes that individuals can use to report such threats (Cornell et al., 2009).

Future directions

There is an urgent need for research investigating the behavior of fame-seeking rampage shooters and the pathway to intended violence in such offenders (Calhoun & Weston, 2003). It would be interesting to investigate whether college-age rampage shooters exhibit a specific pattern of mental health or social adjustment problems as the majority of studies to date have focused predominantly on middle and high school students (Newman et al., 2004). It has been argued that the transition to independent living (or its imminence) may exacerbate the severe social and emotional difficulties that are commonly found in college-age rampage shooters, which subsequently leads them to engage in their extreme violent behavior. The Report of the Office of the Child Advocate for the State of Connecticut (2014) on the Newtown shooter highlighted this as a possibility in the case of Lanza, but this aspect in mass shooters needs to be investigated more empirically across a large number of cases. Research also needs to urgently explore the ways in which mental health services can most effectively address the needs of (as well as support) young people who are experiencing some of the difficulties described above. In particular, those young people who are making the transition to independent living or are just about to (Bushman et al., 2016).

Some of the recent mass shooting cases have drawn attention to the existence of the online communities that provide youths with the opportunity to communicate with similar minded individuals who share and support their violent interests and fantasies (e.g., Report of the Office of the Child Advocate for the State of Connecticut, 2014). It has been well-established in previous studies that online communities function in the same way as other social groups – primarily being able

to influence real-life behavior of the individual (McKenna & Bargh, 1998). This, together with the numerous contemporary cases of mass shooters who have been significantly involved in online communities of individuals who have shared their dark and obsessive interests, clearly highlights the need for research in this area in order to understand "how involvement with online social groups facilitates the translation of hostile grudges into violent action" (Bushman et al., 2016, pp. 32–33). There is a need to address the limited amount of research that has been conducted to date regarding offender age differences. Such research could help assess levels of threats across age, evaluate the risk factors across different age groups and help inform the design and delivery of appropriate interventions (Gerard et al., 2016).

Summary

Understanding and preventing youth violence should be considered a national priority, particularly in light of the tragic shooting in Newtown amongst many other tragic shootings (Bushman et al., 2016). Lankford (2016b) described three empirical predictions. First, that the number of fame-seeking rampage shooters will continue to increase. Second, that attention and fame-seeking individuals will try to have a higher body count compared to previous rampage shooters. Third, that fame-seeking rampage shooters will "innovate" new ways of perpetrating the attack to gain increased notoriety and attention (Lankford, 2016b). We concur with these empirical predictions and highlight the need for urgent research in this area in order to help inform appropriate and timely interventions as early as possible. As highlighted above, given that it is a relatively rare event, the motivational complexity (the wide range of motivating factors across each offender contributing to their extremely violent behavior) and the common presence of mental health comorbidities, it is unlikely that we will ever reach the point where we can completely prevent such atrocities from happening. "Sensitivity to these troubled and dangerous individuals, however, may improve risk management and the accuracy of threat assessment, as long as we keep in mind that most subjects ultimately will be false positives" (Hempel, Meloy & Richards, 1999, pp. 224–225).

Key points

- Mass murder very rarely involves the individual "snapping" in an impulsive explosion of rage. Instead, the preparations for their attacks can take place over days, weeks or even months as opposed to being a sudden, impulsive episode.
- Prior to their attack, there are many cases of mass shooters who have displayed warning signs in various forms, including: posting text, photographs or videos online.
- The idea of an individual who collects injustices, who are referred to as "injustice collectors," has been suggested by O'Toole (2014, 2015) and also described by others (e.g., Langman, 2009). Injustice collecting is often a lifetime pattern, which involves having perceptions of being victimized by others through

slights, which can be small and insignificant. These slights can also be real or imagined. The injustice collector magnifies and perceives these real or imagined slights as being purposeful, personal and deliberate.

- Fame-seeking has been well recognized as a strong motivation for shooters engaging in their attacks. One strategy the fame-seeking rampage shooter might adopt to gain as much media attention as possible is to have a high victim count. Another strategy used by such offenders to attract as much media attention as possible is to choose targets or adopt methods that will make them stand out because they have never been done before.

Essay/discussion questions

1. Can media coverage of shooters encourage future mass shootings?
2. Do mass shooters fit a specific profile?
3. What is it about the factors that, for the vast majority of individuals are normal life experiences, propel or contribute to some individuals perpetrating mass shootings?
4. Are mass shootings actually on the rise?
5. Critically review the psychological factors associated with mass shooters.

Recommended key reading

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5

RAMPAGE SCHOOL SHOOTINGS

What is the definition of a rampage school shooting?

One of the main challenges in studying school shootings is the lack of a precise definition for the phenomenon (Elsass, Schildkraut & Stafford, 2016). Bondü and Scheithauer (2015) have highlighted that the term "school shooting" has received criticism for referring only to shooting incidents. This has led to the introduction of alternative terms, including "rampage" (Newman et al., 2004), "severe targeted violence in school" (Fein et al., 2002) or "school attacks" (Vossekuil et al., 2002). To classify an attack as a rampage school shooting, it needs to meet the following criteria:

1. The location of the incident is a "public stage" (i.e., in full view of other people), either on the school property or at a school-related function.
2. The shooters must be current or former students of the school where the shooting occurred.
3. There must be multiple victims (although the injuries do not have to be fatal) or, at the very least, multiple targets.
4. Some victims may be targeted specifically as a result of a grievance or perceived wrong, there are typically others who are chosen only for their symbolic significance (the principal who represents the school, the preps, the prayer circle, the jocks) or are shot at random (Newman & Fox, 2009).

School shootings are not new phenomena (Wike & Fraser, 2009). One of the earliest school shootings was in 1974, when an 18-year-old honor student set off his school's fire alarm and then began to shoot at the janitors and fire fighters who responded to the alarm (Vossekuil et al., 2002). Newman and colleagues (2004) have identified five necessary, but not sufficient, conditions for a rampage shooting on school grounds. These five conditions are likely to be present in all rampage

school shootings. However, the presence of these factors in an individual will not necessarily lead that individual to perpetrate a school shooting attack. Therefore, the five conditions cannot be used to predict the possibility of an attack happening. Nonetheless, the identification of common factors across school shooters helps us to try and understand the patterns that mark these terrible tragedies (Newman et al., 2004, p. 271–298). These five factors are:

1. The shooter's perception of themselves is that they are extremely marginal in the social worlds that matter to them.
2. Psychosocial problems – such as mental illness, severe depression or abuse – that magnify the individual's perceptions of social exclusion.
3. "Cultural scripts" – prescriptions for behavior – that point the way toward an armed attack as a model for problem solving, particularly for altering the shooter's reputation from that of a loser to that of a notorious anti-hero.
4. The failure of the surveillance system intended to identify troubled teens, leaving the shooter to fly "below the radar" even as they emit signals of trouble to come.
5. The availability of guns and other weapons (in particular, bombs) (Newman et al., 2004, pp. 229–230; Newman & Fox, 2009).

It is imperative that school shooting incidents are understood as resulting from a complex combination of contributing causes. No single cause is sufficient by itself to propel an individual to carry out an act of extreme violence such as a school shooting. Many researchers have focused on a single causal dynamic, which has contributed to the relative lack of integration in the field (Muschert, 2007).

Seung Hui Cho – mini case study

The most lethal school shooting in the United States was perpetrated by Seung Hui Cho on April 16, 2007. Cho was a senior English major at Virginia Tech. Cho killed 32 and wounded 17 students and faculty, then turned the gun on himself, committing suicide. Several hours before the attack, Cho had mailed a videotape to NBC News that contained pictures of himself, where he was posing with guns held aloft in a threatening "V" formation, dressed in combat fatigues and ranting about how he had been mistreated. Cho was born in South Korea and emigrated to the United States in 1992 with his family when he was eight years old. Reports from his mother show that, as a young boy, he was painfully shy. Once the family settled in the Washington, D.C., area, Cho's emotional problems worsened. He exhibited selective mutism and emotional disabilities, which he received support for from the special educational services. It was observed by his middle school and eighth-grade teachers that his writings contained suicidal/homicidal ideation and also references to the Columbine High School shooting, which occurred in 1999 (Newman & Fox, 2009). Family members reported that Cho was "quiet," "reserved" and struggling "to fit in." Cho's middle and high school classmates described him as "difficult to know," "in a world of his

own" and "dramatically uncommunicative." In his senior year of high school, the graduating class yearbook does not contain his name or photograph (Cho & Gardner, 2007, p. 1). During his time in middle and high school, Cho was humiliated daily by his peers. They would make fun of his flat affect, his extreme shyness and his lack of fluency in English (Cho & Gardner, 2007). It may be that Cho's real enemies were not at Virginia Tech, but in the public schools where he had experienced being bullied when he was younger. However, it would have been challenging for Cho to target his classmates given the time that had passed (people will have moved across the country, etc). On his campus at Virginia Tech, Cho was able to commit "multiple murder by proxy" (Levin & Madfis, 2009).

In the latter years of high school, Cho was prescribed anti-depressant drugs and graduated with a 3.5 GPA in the honors program. Cho's secondary school transcripts, which followed him to Virginia Tech, contained no records relating to any legal or disciplinary problems. The records did not make any reference to the special education services and special classroom accommodations for his selective mutism that he received. Also not included in the records was any information pertaining to any kind of psychiatric or counseling services that he had received. The Virginia Tech Review Panel identified that "critical records from one public institution are not necessarily transferred to the next" (Virginia Tech Review Panel, 2007, p. 38).

For his first two years at university, Cho's life was uneventful. However, this changed during his junior year where he became known for his hostile, even violent, writings and threatening behavior (Virginia Tech Review Panel, 2007, p. 41). In the case of Cho, there were "clear warning signs of mental instability," and even though "various individuals and departments within the university knew about each of these incidents, the university did not intervene effectively. No one knew all the information and no one connected all the dots" (Virginia Tech Review Panel, 2007, p. 2). Following the complaints of female students, he was referred to the school's disciplinary system. The campus police sent him to a psychiatric hospital for evaluation. He was found to be "an imminent danger to self and others," but was released to outpatient counseling (Virginia Tech Review Panel, 2007, p. 23). Following this, the faculty tried to segregate him from the classroom settings because his writing upset other students (Newman & Fox, 2009). Similar to other shooters, Cho had a history of feeling persecuted, a history of suicidal ideation and of writing material with suicidal and homicidal ideation, was careful in his planning, did not threaten his victims prior to his attack and took his own life after the attack (Fein et al., 2002). Cho, unlike many other shooters, kept his plans for a killing rampage to himself up until he emailed his manifesto (Cho, 2007) shortly before his attack (Flynn & Heitzmann, 2008).

Empirical studies investigating school shooters: offense and offender characteristics

The fact that school shooting events are relatively rare and that many perpetrators are killed or commit suicide during the incidents reduces the pool of participants

for subsequent analysis and research. There is relatively little empirical research investigating school shooters (Ferguson, Coulson & Barnett, 2011). The most extensive and well-cited studies of school shootings include one conducted by the Federal Bureau of Investigation (FBI; O'Toole, 2000) and another which was carried out by the United States Secret Service and United States Department of Education (Vossekuil et al., 2002). Borum and colleagues (2010) have emphasized that what makes these two studies so notable is that they both rejected any efforts to devise a profile of a school shooter. In addition, they also both discouraged anyone from using lists of warning signs or "checklists" as they are too simplistic and can result in large numbers of individuals being identified who have no intention of ever carrying out a school attack. Instead, both studies attempt to shift the focus towards "threat assessment as a prevention strategy" (Borum et al., 2010). These two studies will now be discussed in more detail.

The FBI study (O'Toole, 2000) was based on a five-day conference that took place in 1999. One hundred and sixty experts and professionals in law enforcement, education and mental health were invited (school staff members who had first-hand experience of a school shooting, and had known the shooters personally, were also invited). Collectively, the 160 experts and professionals examined 14 cases of actual shootings and four cases of planned shootings that had been thwarted. The FBI had exclusive access to the files on these 18 cases. O'Toole identified 46 descriptors that were common across many of the school shooters. These 46 descriptors were broken down into four prongs: 28 personality traits and behaviors, six family dynamics, seven school dynamics and five social dynamics. The study by O'Toole (2000) identified that some of the common individual features included narcissism; bigotry; alienation; poor anger management; a fascination with violence; low levels of self-esteem; and a lack of empathy. A key finding was that school shooters indicated their plans in advance of carrying out their attack through either direct threats or by implication in drawings, diaries or school essays. O'Toole stresses that this list of 46 descriptors should not be used as a checklist in order to predict future violent behavior by a student who has not threatened violence or acted in a violent manner. Instead, she recommends that the list of descriptors should be used only after a student has made some type of threat (verbal or written). The list of descriptors are applied using the four-pronged model – see below. If there is indication of these characteristics, behaviors and consistent problems in all four prongs, it suggests that the student may be fantasizing about carrying out the threat, has the motivation to execute the threat or has started to take steps to carry out the threat. The FBI report recommended that an assessment should consist of the following Four-Pronged Assessment Model:

- Prong 1: personality traits and behaviors of the student ($n = 28$);
- Prong 2: family dynamics ($n = 6$);
- Prong 3: school dynamics and the student's role in those dynamics ($n = 7$);
- Prong 4: social dynamics ($n = 5$).

The 46 descriptors for the Four-Pronged Assessment Model are detailed below.

Prong 1: personality traits and behavior

1. Leakage
2. Low Tolerance for Frustration
3. Poor Coping Skills
4. Lack of Resiliency
5. Failed Love Relationship
6. "Injustice Collector"
7. Signs of Depression
8. Narcissism
9. Alienation
10. Dehumanizes Others
11. Lack of Empathy
12. Exaggerated Sense of Entitlement
13. Attitude of Superiority
14. Exaggerated or Pathological Need for Attention
15. Externalizes Blame
16. Masks Low Self-esteem
17. Anger Management Problems
18. Intolerance
19. Inappropriate Humor
20. Seeks to Manipulate Others
21. Lack of Trust
22. Closed Social Group
23. Change of Behavior
24. Rigid and Opinionated
25. Unusual Interest in Sensational Violence
26. Fascination with Violence-Filled Entertainment
27. Negative Role Models
28. Behavior Appears Relevant to Carrying Out a Threat

Prong 2: family dynamics

1. Turbulent Parent-Child Relationship
2. Acceptance of Pathological Behavior
3. Access to Weapons
4. Lack of Intimacy
5. Student "Rules the Roost"
6. No Limits or Monitoring of Television and Internet

Prong 3: school dynamics

1. Student's Attachment to School
2. Tolerance for Disrespectful Behavior
3. Inequitable Discipline
4. Inflexible Culture
5. Pecking Order Among Students
6. Code of Silence
7. Unsupervised Computer Access

Prong 4: social dynamics

1. Media, Entertainment, Technology
2. Peer Groups
3. Drugs and Alcohol
4. Outside Interests
5. The Copycat Effect

The FBI's experts in criminal profiling strongly asserted that profiling was not an appropriate method for the prevention of school shootings. There is no single set of characteristics that can be used to predict the would-be school shooter with sufficient levels of specificity that would make it of any practical use. As O'Toole (2000) stated:

> in practice, trying to draw up a catalogue or "checklist" of warning signs to detect a potential school shooter can be shortsighted, even dangerous. Such lists, publicized by the media, can end up unfairly labeling many nonviolent students as potentially dangerous or even lethal.
>
> *(O'Toole, 2000, p. 2)*

The second study (which was called the Safe School Initiative), which was carried out by the United States Secret Service and United States Department of Education (Vossekuil et al., 2002), studied 37 incidents of school violence. These incidents were carried out by 41 students who had carried out an attack on someone at their school with lethal means (e.g., gun, knife) and where the perpetrator had purposefully chosen their school as the location for their attack. The incidents occurred between 1974 and 2000. The second study reached similar findings to the O'Toole (2000) study. Vossekuil and colleagues (2002) found that 81% of the perpetrators had told another uninvolved individual of their plan to carry out an attack (often these are peers warned by the shooter in order to make sure they are out of harm's way). However, the students or friends who had been informed rarely communicated this information to adults. Interestingly, the majority of perpetrators did not directly threaten their targets prior to the shooting. 93% of the perpetrators had exhibited behaviors that had caused peers, parents, teachers or mental health

professionals to be concerned (e.g., fantasizing about violence). One example of this was a perpetrator who had talked to his peers about his fantasies, which included him putting rat poison into the cheese shaker at a pizza restaurant. The majority of shooters had never received a formal mental health evaluation or diagnosis, despite most of them (78%, $n = 32$) having a history of suicide attempts or suicidal thoughts before carrying out their attack. A documented history of feeling extremely depressed or desperate was found in over half of the shooters (61%, $n = 25$). A known history of alcohol or substance abuse was found in about one-quarter (24%, $n = 10$). Information on medication non-compliance (i.e., failure to take medication as prescribed) showed that 10% of the shooters ($n = 4$) were recorded as being non-compliant with psychiatric medications that they had been prescribed. There were a number of other findings that are too lengthy to report here. However, 10 key findings emerged from the study. These findings are as follows:

1. Incidents of targeted violence at school *rarely* were sudden, impulsive acts.
2. Prior to most incidents, other people knew about the attacker's idea and/or plan to attack.
3. Most attackers did not threaten their targets directly prior to advancing the attack.
4. There is no accurate or useful "profile" of students who engaged in targeted school violence.
5. Most attackers engaged in some behavior prior to the incident that caused others concern or indicated a need for help.
6. Most attackers had difficulty coping with significant losses or personal failures. Moreover, many had considered or attempted suicide.
7. Many attackers felt bullied, persecuted or injured by others prior to the attack.
8. Most attackers had access to and had used weapons prior to the attack.
9. In many cases, other students were involved in some capacity.
10. Despite prompt law enforcement responses, most shooting incidents were stopped by means other than law enforcement intervention.

Overall, the findings from the Safe School Initiative indicates that it is possible to prevent some future incident of targeted school violence. The majority of incidents were well thought out and planned (which could be seen in the shooters' behavior). Vossekuil and colleagues (2002) found that the majority of school shooters devise a plan at least two days before carrying out their attack. A number of them will not just plan for a few days but weeks or even months The Columbine killers, Eric Harris and Dylan Klebold, prepared for their attack for over a year (Larkin, 2007). It was not an impulsive or spontaneous act but involved elaborate and lengthy planning (Levin & Madfis, 2009). Additionally, before most incidents, the perpetrator had informed and warned some peers of what was going to happen. The majority of attackers were not "invisible." Many were already of concern to a number of people in their lives (e.g., family, teachers, friends) prior to their attack.

The two studies described above (O'Toole, 2000; Vossekuil et al., 2002) are considered to be the most empirically robust studies carried out to date in this area. However, there are a few other well-cited studies that have been conducted. Verlinden, Hersen and Thomas (2000) carried out an examination of the risk factors in a sample of 10 perpetrators of school shootings. Consistent with the study conducted by O'Toole (2000), the researchers explored risk factors in a number of key domains, namely: individual, family, school/peers and societal/environmental. The most common risk factors across the sample included: a history of aggression, uncontrolled anger, depression and suicidal ideation, discipline problems and feeling rejected and being bullied. Another study was conducted by Meloy and colleagues (2001), which reviewed 37 adolescent mass murderers. They identified that eight of these 37 adolescent mass murderers were categorized as "classroom avengers" and are the subset of interest for this chapter. The school shooters were often found to have been bullied but did not bully others. A preoccupation with weapons and fantasy was also found, and many also had a history of substance abuse. Interestingly, most were not depressed and had no history of antisocial behaviors (Meloy et al., 2001).

Additionally, Leary and colleagues (2003) examined 15 school shootings and identified a range of common features across the perpetrators. The cases they included in their sample were all well-documented cases of school violence that took place between January 1995 and March 2001 in the United States. They found that acute or chronic rejection (in the form of ostracism, bullying and/or romantic rejection) was found in all but two of the incidents. Another interesting finding by Leary and colleagues was the tendency for the shooters to be characterized by at least one of three other risk factors, including: having an interest in firearms or bombs, a fascination with death or Satanism, mental health issues such as impulse control or sadistic tendencies (Leary et al., 2003). The findings also supported the notion that, in many school shooters, social rejection is a contributory factor. A history of being teased, bullied or ostracised was found in 12 of the 15 cases. A recent romantic rejection was experienced by at least six shooters. In only two cases there was no clear evidence of rejection (Leary et al., 2003). These findings are consistent with the findings from earlier studies (e.g., Vossekuil et al., 2000). For instance, in the school shooting cases they examined, Vossekuil and colleagues (2000) also found evidence for bullying, ostracism and social rejection in more than two-thirds. A history of being bullied is found in some school shooters but not all (Vossekuil et al., 2002; Newman et al., 2004; Langman, 2009). Even if most school shooters had a history of being bullied, the vast majority of young people who have experienced bullying do not go on to perpetrate extreme acts of violence such as a school shooting. Additional risk factors and lack of protective factors are involved. Moreover, the exact role that bullying has in contributing to a specific shooting incident is unclear (Rocque, 2012; Mears, Moon & Thielo, 2017). Another study carried out by Gerard and colleagues (2016) gathered data on 28 school shooting cases. Data was gathered from resources such as West Law and case studies. Their findings indicated that 54% of the shooters had experienced

victimisation through bullying, abuse or neglect. Further, 71% of the shooters had experienced depression and suicidal thoughts. A history of violence was also found in 61%. The majority of shooters (75%) had planned and prepared for their offence by acquiring weapons, writing notes in relation to the offence and making threats (Gerard et al., 2016).

Psychopathology has been found to be a common characteristic among a number of school shooters, including the Columbine shooters – Eric Harris and Dylan Klebold (Hong et al., 2011). Harris and Klebold had both received counseling sessions for depression, impulsivity and antisocial behavior (Immelman, 1999; Tappan & Kita, 1999). Based on Eric's journal entries and personal communications with a counselor, Immelman (2004a) suggested that Harris's behavioral patterns were consistent with pathological narcissism, antisocial tendencies, paranoid traits and unconstrained aggression. In one of the posts he wrote online, Harris made the following comment: "God I can't wait till [*sic*] I kill you people. Ill [sic] just go to some downtown area in some big ass [*sic*] city and blow up and shoot everything I can. Feel no remorse, no sense of shame …" (Immelman, 1999). Harris was prescribed Luvox for obsessive compulsive disorder (OCD) and he was also court-ordered to attend an anger management class shortly after he was arrested for vandalism (Meadows, 2006). Klebold was described as being highly sensitive to shame and humiliation. An evaluation found him to be depressed, over-anxious, mistrustful and showing reclusive behavior patterns, which are all features that would be consistent with a diagnosis of avoidant personality disorder or social phobia (Immelman, 2004b). He also described having feelings of loneliness and isolation in his journal as can be seen in the following excerpt: "I want to die really bad right now … no girls (friends or girlfriends), no other friends except a few, nobody accepting me … I feel so lonely w/o a friend" (Meadows, 2006). It does not appear that Eric or Dylan came from "bad" families. The parents of both shooters were concerned about their sons' behavior and attempted to do their best to help them (Block, 2007; Larkin, 2009). Harris and Klebold were regularly taunted and harassed by other students at school (Meadows, 2006). The following was found in Harris's journal: "Everyone is always making fun of me because of how I look, how fucking weak I am and shit, well I will get you all back, ultimate fucking revenge here." (Harris, 1998, p. 8). The Washington Post described Columbine High School as dominated by a "jock culture" where both Harris and Klebold were regularly bullied and harassed by athletes (Clabaugh & Clabaugh, 2005). Numerous students at Columbine High School reportedly, shortly following the attack at Columbine High School, described jocks shoving, cursing and throwing rocks and bottles at Harris and Klebold regularly (Pooley et al., 1999; Hong et al., 2011).

School shooters lack skill in solving social problems, do not actively cope with adversity and appear to accumulate grievances, losses and social failures (O'Toole, 2000). They start to develop over time negative schemata and scripts in which other people are perceived as having hostile intent. Because of their feelings of rejection and persecution, they tend to withdraw and become socially isolated (sometimes, rather than become socially isolated, they may just associate themselves

with other alienated individuals) (Verlinden, Hersen & Thomas, 2000). It may be a particularly dangerous combination when you have someone in this particular situation and they also have a fascination with weapons, anger at peers and have been victimized by bullies or others (Wike & Fraser, 2009).

Some warning behaviors discriminate between school shooters and other students of concern

A study by Meloy and colleagues (2014) addresses a significant limitation of many of the studies carried out to date investigating the warning behaviors in school shooters, including the studies O'Toole (2000) and Vossekuil and colleagues (2002) – the primary difference in the Meloy study was that it included a comparison group. In the study by Meloy and colleagues (2014), a typology of eight warning behaviors for targeted violence were tested in a relatively small sample of German school shooters ($n = 9$) and students of concern ($n = 31$) with the aim of identifying if any warning behaviors would be significantly different between the two groups. In other words, is there any way to discriminate between those individuals who prompt the concern of threat assessors but have not exhibited any intention to carry out an attack from those who actually carry out the attack. Interestingly, findings revealed five warning behaviors that occurred with significantly greater frequency in the school shooters compared to the students of concern. These five warning behaviors were:

1. **Pathway warning behavior:** which refers to any behavior that is part of research, planning, preparation or implementation of an attack.
2. **Fixation warning behavior:** any behavior that would suggest an increasingly pathological preoccupation with a person or a cause. Fixation warning behavior is measured by (a) increasing perseveration on the person or cause; (b) increasingly strident opinion; (c) increasingly negative characterization of the object of fixation; (d) impact on the family or other associates of the object of fixation, if present and aware; and (e) angry emotional undertone. It is usually accompanied by social or occupational deterioration.
3. **Identification warning behavior:** any behavior that would suggest a psychological desire to be a "pseudocommando" (Dietz, 1986), have a "warrior mentality" (Hempel, Meloy & Richards, 1999), closely associating with weapons or other military or law-enforcement paraphernalia, identifying with previous attackers or assassins, or identifying oneself as an agent in order to advance a particular cause or belief system.
4. **Novel aggression warning behavior:** an act of violence that does not appear to be associated to any targeted-violence pathway warning behavior committed for the first time. These apparently unrelated behaviors may be engaged in order to test the ability of the subject to actually carry out the attack, and may even be a measure of response tendency (i.e., the motivation to act on the environment, or a behavioral try-out).

5. **Last resort warning behavior**: where there is evidence of a "violent-action imperative" or "time imperative" (Mohandie & Duffy, 1999); increasing desperation or distress through declaration in word or deed, which forces the individual into a position of last resort. Expressing the view that violence is the only option and the consequences are justified (Meloy et al., 2014).

One of the key findings from this study was the marked differences in warning behaviors between the German school shooters compared to the students of concern. Both the school shooters and students of concern often leaked their intent to others. However, the warning behaviors of pathway, fixation, identification, novel aggression, last resort – and, to a lesser extent, energy burst (energy burst refers to an increase in the frequency or variety of any noted activities associated with the target, even if the activities appear to be innocuous, typically in the days or weeks prior to the attack) were the behaviors that distinguished the school shooters from the students of concern (Meloy et al., 2014).

Retrospectively examining school shootings in order to develop a profile is relatively easy. However, these profiles are not strong enough to predict who are the would-be shooters. Profiles cannot be used to prospectively identify a potential would-be school shooter. However, there are signs in a would-be shooter that should be seriously considered. For instance, a written note (or a verbal statement) from a student that says that they intend to kill others should be given high priority (O'Toole, 2000; Mears et al., 2017).

Differences and similarities of attacks in schools and in institutes of higher education

In aggression research, school shootings are attracting increasing attention. However, much less is understood about attacks that occur in institutes of higher education (IHE) such as universities. This has led some researchers to argue that the term "school attack" should not just be limited to institutions of general education but extended to include IHE. Some very well-known examples of rampage shootings that took place at universities include the 1966 University of Texas tower shootings and the 2007 shootings at Virginia Tech (Muschert, 2007).

Studies have found that there are similarities as well as differences between shooters who carry out their attacks in general education versus those who carry out their attack in IHEs (Bondü & Beier, 2015). Bondü and Beier (2015) examined 232 school attacks and 45 attacks that took place in institutes of higher education (IHE), which took place across the world, in order to investigate any differences between the two groups. The majority of perpetrators of attacks carried out in schools were between the ages of 13 and 18 years (Bondü, 2012; Vossekuil et al., 2002). Perpetrators of attacks in IHE were between the ages of 18 to 62 years. Findings also showed that approximately one-third exceeded the typical age range of a student in IHE (>30 years). What was similar across both groups was the proportions of current students. Failure in performance may potentially be a key trigger

for many IHE attacks (Newman & Fox, 2009). Many IHE perpetrators have invested a great deal of money, time and energy into their higher education. Therefore, the prospect of failing and not having any job prospects may be particularly devastating. They may attribute their failure to external causes rather than their own limitations in order to try and cope, which may provide the individuals with a motive to seek revenge (Bondü & Beier, 2015).

Newman and Fox (2009) found that college shooters are no longer trying to integrate into groups. Therefore, their motives for the shooting are different from the shooters who carry out their attacks in middle and high school. Unlike the middle and high school shooters, the college shooters do not tend to broadcast their threats prior to carrying out their attack in an attempt to try and reverse their negative reputations and become notorious in order to gain friends. They also found that most high school shooters felt ambivalent about acting on their threats and hoped that the threat alone would reverse their negative reputations amongst their peers. The college shooters, on the other hand, want notoriety but appear to be less ambivalent about carrying out the attack. This is important to consider because it influences the shooters' behavior and actions in the lead up to the attack. The high school shooters are seeking attention and, as a result, give off warning signals that could potentially enable individuals who become privy to these warning signals to notify authorities. On the other hand, college shooters have no reason to give any warnings in advance of their attack and the majority have been found not to do so (Newman & Fox, 2009).

Three-part typology of school shooters: traumatized, psychotic and psychopathic

It has been argued by Langman (2009) that this focus on the commonalities across school shooters fails to capture some of the important differences that there may be between them. There may be different types of school shooters. To investigate this, Langman (2009) examined 10 school shooter cases and, based on information that was available, categorized these school shooters into three types, namely traumatized, psychotic and psychopathic (Langman, 2009, 2012). Langman also explored other factors that may have contributed to the shooting, including: family structure, role models and peer influence. Findings from the study by Langman showed that three of the 10 school shooters were classified as being in the traumatized category (Mitchell Johnson, Jonesboro, Arkansas; Evan Ramsey, Bethel, Alaska; Jeffrey Weise, Red Lake, Minnesota), five were psychotic (Dylan Klebold, Columbine; Michael Carneal, West Paducah, Kentucky; Andrew Wurst, Edinboro, Pennsylvania; Kip Kinkel, Springfield, Oregon; Seung Hui Cho, Virginia Tech) and two were psychopathic (Eric Harris, Columbine; Andrew Golden, Jonesboro, Arkansas) (Langman, 2009, 2009a).

The traumatized shooter

Traumatized shooters have a history of physical and/or sexual abuse. In at least one of the parents, there is substance abuse and/or criminal behavior. All three traumatized shooters (Mitchell Johnson, Evan Ramsey and Jeffrey Weise) in the study by Langman (2009) came from broken homes with parental substance abuse and parental criminal behavior. All three had a history of being physically abused and two had a history of being sexually abused outwith the home. The three traumatized shooters in this study shared two key factors that separated them from other traumatized children. First, they all had father-figures who had engaged in the illegal use of firearms. Second, they all had peer support for the attacks. Specifically, in all three cases, friends were arrested for their roles in encouraging or helping the shooters (Langman, 2009). An example of a traumatized shooter is Eric Houston. Houston's family history included incest, alcoholism, physical abuse and a number of occasions where he had to relocate. His father was a violent alcoholic who had abandoned the family. Houston had to move back and forth between his parents. One of his grandmothers committed suicide and his uncle killed three people (Langman, 2017).

The psychotic shooter

Typically, psychotic shooters have schizophrenia. However, there are others who have schizotypal personality disorder. The psychotic shooter tends to be disconnected from reality and typically experiences psychotic symptoms, including: auditory hallucinations, disorganized thoughts, paranoid delusions and delusions of grandeur. Significantly impaired social functioning is also frequently found, which subsequently leads them to have a "profound envy" of others who they consider to be more successful and happy (Langman, 2017). All five of the psychotic shooters (Dylan Klebold, Michael Carneal, Andrew Wurst, Kip Kinkel and Seung Hui Cho) experienced paranoid thinking to varying degrees. The shooters in this category had siblings who were higher-functioning, which, within their families, made them feel inferior and like failures. There are a number of features that have been found to be associated with violence in individuals with schizophrenia. Some of these features were found in the psychotic shooters in this study, including: being male, having early onset of psychotic symptoms, engaging in substance abuse and not taking prescribed antipsychotic medications (Langman, 2009).

One example of the psychotic shooter is Seung Hui Cho, whose psychotic symptoms appear to have been a major contributing factor to his attack. He experienced delusions of grandeur (as can be illustrated by the fact that he compared himself to Moses and Jesus in the manifesto he wrote, for example). In addition, he experienced paranoid delusions, believing that people were trying to kill him. This paranoid thinking led him to believe that he had to attack before the world killed him first. Cho also displayed other features that are commonly found in this particular group of shooters, namely flattened affect (typically one of the symptoms of

their psychiatric mental health disorder(s) or neurodevelopmental disorder), social function, which was markedly impaired, and profound envy towards his peers because of the normal, happy lives he perceived them to be living (Langman, 2017). All five psychotic shooters had schizophrenia-spectrum disorders (such as schizophrenia and schizotypal personality disorder). Interestingly, all five psychotic shooters in the study came from intact families with no history of abuse (Langman, 2009).

The psychopathic shooter

Psychopathic shooters exhibit narcissism, a lack of conscience, a lack empathy and are often sadistic. The two psychopathic shooters (Eric Harris and Andrew Golden) in Langman's (2009) study had experienced no abuse and did not show any signs of being psychotic. One example of the psychopathic shooters was Eric Harris (one of the Columbine High School Massacre shooters). He exhibited a number of psychopathic traits. Some of these included: extreme levels of narcissism, a rejection of morality, a lack of empathy and features of sadism. He referred to himself in his writing as being a god-like being who was superior to anyone else. He also wrote a number of times about how he rejected morality and values. He had fantasies about raping girls that he knew and about torturing people, using a knife to rip their bodies apart and killing them. When he carried out his attack, he laughed with glee. He would hold onto grudges, accumulating injustices (where he perceived himself to be a victim – either real or imagined) and wanted to get vengeance against those he perceived to have wronged him in some way (Langman, 2017).

Three types of shooters

The majority of the school shooters in the study by Langman were not psychopathic (Langman, 2009). Of the 10 shooters in this study, only two were psychopathic. As well as their psychopathic personalities, the two psychopathic shooters came from families that had long histories of legal firearms use and both shooters had been obsessed with weapons. Both shooters had also recruited peers to help them carry out their attacks. Five of the 10 shooters in this study had schizophrenia-spectrum disorders. Langman argues that the three-part typology of school shooters (traumatized, psychotic and psychopathic) emphasizes the need to look at individual psychological factors. Examining whether or not the shooters were bullied or teased fails to capture the significance of their respective histories of multiple traumas, psychotic symptoms or psychopathic traits. Langman argues that the bullying or teasing needs to be understood and considered within the whole context of their personalities, histories of trauma or schizophrenia-spectrum disorders.

This study by Langman and the typology he identified is a useful and important step forward in the field. It may provide some explanation as to why there are discrepancies in findings across studies (e.g., whether there was a history of trauma,

psychosis) that have investigated school shooters. Further, these three typologies are not intended to be exhaustive and more types may be identified with further research. There may also be some degree of overlap across the three typologies. For instance, it is possible for a psychotic or psychopathic school shooter type to be traumatized. The identifying of different categories of school shooters (typologies) will help to increase our understanding of school shooters. However, not all individuals who are traumatized, psychotic or psychopathic will perpetrate a school shooting. They are not sufficient by themselves, other factors are necessary to propel someone down the path to intended violence (Langman, 2009).

Biological, or body-related, issues in school shooters

Biological, or body-related, issues refer to a very broad range of issues such as features that the shooters were born with (congenital abnormalities or defects), as well as other issues that emerged during childhood or adulthood (Langman, 2017). It has been noted by Dr Peter Langman (2017) that there are a number of mass shooters who have experienced biological challenges to their identities. Also, because the majority of mass shooters are male, these biological issues may have presented as a challenge to their sense of masculinity. Biological issues include medical problems (e.g., birth defects or significant illnesses), appearance-related factors (e.g., shortness, obesity, severe acne) and also functional matters (e.g., lack of athletic ability, poor coordination). [For an extensive list of body-related issues, see Langman, 2017b].

Langman (2017) provides a few examples of mass shooters who experienced biological or body-related issues. For instance, Eric Harris, who was one of the Columbine High School Massacre shooters, was born with two birth defects. One of them was a deformity of his chest, which required two surgeries. The chest deformity was a pectus excavatum – a sunken chest. When Harris was 12 years old, he underwent surgery for his pectus excavatum, which involved the surgeons implanting in his chest a steel strut that was removed six months later. Despite his surgery, his chest still failed to develop well and evidence of the pectus excavatum is noted in his autopsy report (see Part of autopsy report for Eric Harris: www.acolumbinesite.com/autopsies/eric3.gif). In addition to his chest deformity, he also had an unknown birth defect in his legs that necessitated a number of visits to physicians when he was an infant. Harris hated how he looked and he was teased because he had a big head on a skinny body. Harris never wrote anything about the impact of his sunken chest, he did write in his journal about the negative feelings he had about his physique, "I have always hated how I looked.… That's where a lot of my hate grows from. The fact that I have practically no self-esteem, especially concerning girls and looks and such" (Harris, 1998, p. 8).

Harris's deformed physique is particularly intriguing given the affinity he had in the years leading up to the shooting for Hitler and the Nazis. Harris immersed himself in Nazi ideology and by doing so embraced an ideology of biological superiority. Despite his deformed body, he still felt superior due to his racial identity.

Psychologist Raphael Ezekiel conducted a study of neo-Nazi group members and found that (similar to Harris) many of them had experienced significant medical problems in childhood. They were "poor physical specimens" who sought an ideology of superiority in an attempt to enhance their inadequate identities (Ezekiel, 1995). By embracing the Nazis, Harris also embraced a model of hypermasculinity. Harris was attracted to the macho, militaristic image of the Nazis (Langman, 2010).

Another example is Seung Hui Cho, who was a sickly child and infirm as an adult. He worked out in an attempt to bulk up but, despite this, an unusual lack of muscle was noted during the autopsy. The Sandy Hook Elementary School shooter, Adam Lanza, had delayed speech, an odd gait and was not well coordinated. He also displayed severe sensory sensitivities, and was extraordinarily thin at six feet tall and weighing only 112 lbs. Another example is Dylan Klebold, who almost died shortly after birth as a result of pyloric stenosis for which he received life-saving surgery. Pyloric stenosis is a condition where the passage (pylorus) between the stomach and small bowel (duodenum) becomes narrower. In the majority of cases, an infant with this condition will begin bringing up small amounts of milk following feeding. Over a few days, this will become worse until the infant is no longer able to keep any milk down. If left untreated, the baby will become dehydrated and not gain weight. When he was an adolescent, Klebold injured his pitching arm, which had a negative impact on his ability to play and he was devastated when he did not make the Columbine High School baseball team. He also wrote about "looking weird" (Langman, 2017b).

Education and military failure

Langman (2013a) examined 16 perpetrators of multi-victim shootings at colleges and universities. Given that school shootings involve the use of firearms in educational settings, an analysis was carried out examining the place of education and professions that involve the use of firearms in the lives of the 16 school shooters. What Langman found was that many of these perpetrators had family members who had served in the military and/or been involved in educational settings. The percentage of shooters who had family members in the military or law enforcement was at least 44%. The same percentage of the shooters also had family members who were involved in education (e.g., as teachers/professors or held other roles within educational settings). Langman suggest that these figures could be higher because, for a number of the perpetrators, no information was available on these issues. The prevalence of family members who are in the military and education may be significant in relation to the shooters' own failures or rejections in these two areas. At least seven of the 16 school shooters (44%) had experienced military rejections or failures. Some type of academic failure was experienced by 63% (e.g., failing to graduate from high school, failing to get a college degree or failing to win an intensely desired academic award) (Langman, 2013). As discussed earlier in this chapter, a number of school shooters experienced biological challenges to their

identities. It may be that they believed that, by becoming soldiers, they would repair their sense of damaged masculinity, therefore, the failure they experienced may have been particularly devastating to them (Langman, 2015). In the sample of 48 school shooters in Professor Peter Langman's book, *School shooters: Understanding high school, college, and adult perpetrators*, at least 16 of the 48 shooters (33%) had relatives who were in the armed services or law enforcement (Langman, 2015).

Narcissism as a risk factor in school shootings

Research has suggested that there is an increased risk of mood disorders (such as anxiety and depression) and narcissism in those individuals who define their success based on the achievement of extrinsic goals (e.g., fame and money) rather than define their success based on intrinsic goals (e.g., well-being and personal growth) (Nickerson et al., 2003). The increase of narcissism in American culture has been the topic of a large body of both scholarly and popular discussion (e.g., Twenge & Campbell, 2009; Konrath, O'Brien & Hsing, 2010). Narcissism is characterized by an explicit perception of superiority over other people. It is also associated with antisocial tendencies including aggression and low empathy (Bushman & Thomaes, 2011). A cultural climate that promotes and encourages self-promotion may not only serve to make fame attractive to individuals hoping to fit in but also those wanting to stand out. Unsurprisingly then, given this cultural climate, narcissism has been found to predict an interest in fame (Maltby, 2010) and in extrinsic aspirations (including a desire for fame and wealth) (Kasser & Ryan, 1996; Greenwood, Long & Dal Cin, 2013).

There are a number of motives cited for school shootings such as hate; suicidal ideation; a desire for fame, attention and respect; and the need to solve a problem. However, the most frequent motive is considered to be revenge (e.g., Vossekuil et al., 2002), which can be triggered by negative experiences (e.g., social rejection, bullying, perceived injustice, humiliation) (McGee & DeBernardo, 1999; Leary et al., 2003). It has been postulated that the perpetrators of school shootings may perceive these experiences much more intensely and negatively as a result of their underlying narcissistic traits or narcissistic personality disorder (NPD). Therefore, a "pervasive pattern of grandiosity (in fantasy or behavior), need for admiration, and lack of empathy" (American Psychiatric Association [APA], 2000, p. 661) needs to be considered one of the risk factors for school shootings. This would suggest that NPD or marked narcissistic traits should be more prevalent in school shooters when compared to the general population. The *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5; APA, 2013) estimates the prevalence of NPD to be somewhere between 0% and 6.2% in community samples. The DSM-V also states that narcissistic traits may be common among adolescents and may not necessarily indicate a subsequent NPD (Bondü & Scheithauer, 2015).

As highlighted by Faccini and Allely (2016), there has been sparse empirical study of the association between violence (particularly extreme violence) and narcissism (e.g., Twenge & Campbell, 2003; Blinkhorn, Lyons & Almond, 2016;

Lambe et al., 2018). One study found that individuals diagnosed with narcissism have a tendency to experience increased anger reactivity when faced with failure and social rejection (Twenge & Campbell, 2003). Lambe and colleagues (2018) identified 20 articles that described 25 separate samples in a recent review. Their findings indicated that narcissism may be an important construct (and may be a useful alternative to self-esteem) in understanding the mechanisms that give rise to violent behavior (Lambe et al., 2018). Since psychopathology has been shown to combine with autism-based deficits (and potentially Eriksonian Psychosocial Deficits) in contributing to violent behavior, narcissism has been found in some studies to be characteristic of many shooters in neuro-typical individuals. However, narcissism has been neglected by the literature exploring autism-related deficits and violence, or even as a potential risk factor. Individuals who receive threats to their ego tend to react with aggression to the source of this threat (Faccini & Allely, 2016). Bushman and Bauemeister (1998) found that these aggressive reactions to threat in individuals who are narcissistic are particularly marked (Bezuidenhout & Wharren, 2013). An analyst from the FBI maintained that Eric Harris, one of the Columbine school shooters, was a classic psychopath who exhibited a "messianic level superiority complex and hoped to illustrate his massive superiority to the world" (Cullen, 2009; Fitzgerald, 2015).

There has been a relatively small number of studies to date that have suggested that narcissism or narcissistic traits are often displayed in school shooters (O'Toole, 2000). However, there has been relatively little empirical study into this potential risk factor (e.g., McGee & DeBernardo, 1999; Hoffmann, Roshdi & Robertz, 2009; Bondü & Scheithauer, 2014). It has been postulated that narcissistic traits or narcissism may be a potential risk factor (when in combination with other additional risk factors) for school shootings (Köhler & Kursawe, 2003; Robertz, 2004; Scheithauer & Bondü, 2008). However, simply having a diagnosis of NPD or having narcissistic traits is not a necessary condition for motivating an individual to carry out an attack (Faccini & Allely, 2016). Oksanen, Kaltiala-Heino, Holkeri and Lindberg (2015) outlined the findings from a number of studies on school shooters, which found that the dysfunctional peer relations they suffered may have exacerbated their existing mental health conditions, including depression symptoms and narcissistic personality traits (Verlinden, Hersen & Thomas, 2000; Newman et al., 2004; Robertz & Wickenhäuser, 2010). Therefore, no single disorder is a necessary condition for setting someone on the pathway to engaging in extreme violence.

Bondü and Scheithauer (2014) carried out a study that was based on seven school shootings that took place in Germany to examine whether there were any symptoms of narcissistic personality disorder (NPD) as characterized by the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; DSM-IV; American Psychiatric Association, 2000). They found that a diagnosis of NPD would have been met in one of the seven school shooters. Bondü and Scheithauer (2015) analysed police investigation files on seven school shootings that occurred in Germany. They looked in the files for symptoms of NPD as defined by the *Diagnostic and Statistical*

Manual of Mental Disorders (4th ed.; DSM-IV). The files contained witnesses' and offenders' reports as well as expert psychological evaluations. Cases were included if they met the following criteria: offense committed by a present or former student of the school, with intent to kill at least one person at school, the motive relating to the school context. Seven relevant offenses met the criteria, which occurred between 1999 and 2006 [Place (federal state)/Date: Meißen (Saxony) 11/9/1999 Brannenburg (Bavaria) 3/16/2000 Freising (Bavaria) 2/19/2002 Erfurt (Thuringia) 4/26/2002 Behrenhoff (Pomerania) 8/29/2002 Coburg (Bavaria) 7/2/2003 Emsdetten (North Rhine-Westphalia) 11/20/2006]. All seven school shootings were perpetrated by single, male offenders who were between the ages of 15 and 22 years (Mean age = 17.3; Standard Deviation = 2.6). They found that four offenders had received some form of treatment for mental health disorders before they had carried out their attack and/or had been diagnosed with mental health disorders after their attack. In two of the three remaining offenders, information in the investigation files provided evidence of mental health disorders. Of the four offenders who had received treatment for mental health disorders before their attack, three exhibited detached symptoms of narcissism. However, the three offenders who exhibited these detached symptoms of narcissism did not fulfill the diagnostic criteria for NPD. Of the other three offenders, two exhibited narcissistic traits. Interestingly, only one offender met the diagnostic criteria for NPD based on the DSM-IV-TR (APA, 2000). What this study shows is that NPD may not be a common characteristic of school shooters, but may be more frequent in this particular group of offenders compared to that found in the general population (Bondü & Scheithauer, 2015).

Neuman and colleagues (2015) developed a new methodology for profiling school shooters that involves the automatic analysis of texts and the production of a range of measures, which are relevant for the identification of the shooters. In order to examine this new methodology, Neuman and colleagues made a comparison between the texts written by six school shooters to 6056 texts that were written by a comparison group of male subjects. Findings revealed that the shooters' texts scored significantly higher on the Narcissistic Personality dimension as well as on the "Humiliated" and "Revengeful" dimensions when compared to the comparison group of male subjects (Neuman et al., 2015).

Lastly, narcissism and consumerism exacerbate feelings of resentment, hatred and jealousy towards the real or perceived successes of other people. This frustration is illustrated by the social imaginaries (or fantasies) of school shooters (De Venanzi, 2012). For instance, Eric Harris posted some text that indicated the relationship between shame, narcissism and revenge. Larkin (2009) obtained the following excerpt from Harris's webpage:

> I will rig up explosives all over town and detonate each one of them at will after I mow down a whole [expletive] high strung area full of you snotty rich ass rich [expletive] high strung godlike attitude having worthless pieces of [expletive] whores.

Additionally, the Virginia Tech shooter told his roommates that he had a supermodel girlfriend who was called Jelly, who lived in outer space, traveled around in a spaceship and called him "Spanky" (De Venanzi, 2012).

The role that dominant notions of masculinity play in causing the phenomenon has been highlighted. For instance, Madfis (2017) highlighted that there have been a number of researchers (e.g., Mai & Alpert, 2000; Neroni, 2000; Schiele & Stewart, 2001; Kimmel & Mahler, 2003; Klein, 2005) who have noted that most of the rampage school shooters have been male and highlighted the contributory role that dominant notions of masculinity play in the phenomenon. There have been relatively few female school rampage shooting perpetrators in the United States (Brenda Spencer, Laurie Dann, Jillian Spencer, Latina Williams and Amy Bishop – and only Brenda Spencer and Latina Williams ever attended the schools they carried out their attack in). In the study carried out by Madfis (2014a), of their sample of 23 students who were accused of being involved with planning an averted rampage attack at the 11 schools under investigation, only one was female. Almost all rampage school shooting perpetrators have been boys and men (Danner & Carmody, 2001; Kimmel & Mahler, 2003; Mai & Alpert, 2000). There is clearly a need to consider the role of masculine identity and gender socialization in school attacks (Klein, 2005, 2006; Madfis, 2017).

Animal abuse as a warning sign of school shooters

Arluke and Madfis (2014) examined the quantity and quality of cruelty in a sample of 23 perpetrators of school shootings that occurred between 1988 and 2012. They found that 43% of the perpetrators had carried out acts of animal cruelty prior to their attacks. Additionally, they found that the cruelty tends to be directed against anthropomorphized species (dogs and cats) in a personal, hands on way (e.g., using knives to cut open and mutilate the animals). For instance, the Columbine High School shooters, Harris and Klebold, would boast about mutilating animals for fun. Harris also exhibited animal empathy in addition to animal abuse. Harris's friends said that,

> two weeks before Eric Harris stormed Columbine High School with guns in his hands, bombs in his pockets and payback on his mind, his biggest worry was his seizure-wracked dog. The sick pooch was all he talked about on a recent date.
>
> *(Briggs & Blevins, 1999)*

Kipland Kinkel allegedly decapitated cats, dissected live squirrels, blew up cows, set a live cat on fire and put firecrackers in gophers and cats (Tallichet & Hensley, 2004). Burning, drowning, kicking or smashing their animal victims has been found in other perpetrators of school shootings. Only a small subgroup of school shooters (10%) engaged in less intimate and hands-on approaches to harming or killing animals (e.g., shooting them). The Sandy Hook Elementary School shooter Adam

Lanza was reported to be an "ethical vegan" as he wanted to avoid hurting animals (McDonough, 2012; Willis, 2012). In their study, Arluke and Madfis (2014) found that only 43% of their sample of perpetrators of school shootings had a history of animal abuse. They suggest that it would be useful for future research to investigate whether there are any identifiable patterns and distinctions between perpetrators who do not have a history of animal abuse and those that do, for instance. Another study found that only five of the 41 shooters they examined had a history of abuse, which led them to conclude that "very few of the attackers were known to have harmed or killed an animal" (Vossekuil et al., 2002, p. 22).

There have been relatively few empirical studies investigating the association between animal abuse and school shooters. Leary and colleagues (2003) examined 15 school shootings that occurred between 1995 and 2001 and found that only three of the 15 school shootings had a history of animal abuse cases (Luke Woodham, Mitchell Johnson and Kipland Kinkel). Verlinden and colleagues (2000) examined eight school attacks that took place between 1996 and 1999 and investigated the prevalence of a range of warning signs, including but not limited to history of animal cruelty, in a sample of 10 perpetrators. They found that five of the 10 shooters they examined (Evan Ramsey, Luke Woodham, Kipland Kinkel, Eric Harris and Dylan Klebold) allegedly had some history of animal abuse (Arluke & Madfis, 2014).

Case study – Adam Lanza

On December 14, 2012, 20-year-old Adam Lanza killed 26 people, 20 of them young children, inside Sandy Hook Elementary School in Newtown, Connecticut (Cohen-Almagor, 2014). Sometime on the morning of December 14, 2012, before 9:30 a.m., Lanza shot and killed his mother Nancy Lanza (with four gunshots to the head) in her bed at 36 Yogananda Street, Newtown (Sedensky, 2013). Since the attack, this house has been demolished. The case study of Lanza presented in this chapter is predominantly based on official published reports and police documents. In particular, The Report of the State's Attorney for the Judicial District of Danbury on The Shootings at Sandy Hook Elementary School and 36 Yogananda Street, Newtown, Connecticut (Sedensky, 2013). This report was a 48-page summary of the official investigation into the tragedy in Newtown and was published on November 25, 2013. It provides details regarding Lanza's behavior prior to perpetrating one of the worst mass shootings in United States' history (Sedensky, 2013). Additionally, The Office of the Child Advocate in Connecticut published a report that was used for the present case study. This report summarized Lanza's contacts with the medical and mental health systems and was published approximately two years following the attack.

Early medical background

It was reported that Mrs Lanza's pregnancy with Lanza was difficult with maternal hypoglycemia, hypotension and decreased fetal movement, which was then

followed by a planned Cesarean section. Lanza was, by all accounts, a healthy, full-term baby. It was reported that, when Lanza was eight days old, he had an episode of apnea during which he stopped breathing and he was admitted to the hospital (Office of the Child Advocate, 2014, p. 15). Additionally, Adam Lanza's medical records indicate a history of possible seizure disorder and a febrile seizure in infancy (Office of the Child Advocate, 2014, p. 26). Despite there being a number of references to a possible history of seizure disorder, the pediatric medical records do not indicate that any follow-up evaluation ever occurred. Exactly why Lanza did not undergo a thorough neurologic evaluation is uncertain (Office of the Child Advocate, 2014, p. 32). Birth complications (e.g., anoxia, traumatic preterm delivery) may be another potential contributor to the development of a school shooter. Studies have found that there is an association between perinatal trauma incurred during delivery and later offending behavior (Kandel & Mednick, 1991; Arseneault et al., 2002; Fazel et al., 2012). However, it is important to emphasise that other factors are involved, birth complications by themselves are not causal factors for later offending behavior. For instance, studies by Raine and colleagues highlighted that birth complications interact with early maternal rejection in predisposing individuals to later violence (Raine, Brennan & Mednick, 1994; Raine, Brennan & Mednick, 1997).

History of psychiatric conditions and neurodevelopmental disorders

Throughout his entire life, it appears that Lanza experienced severe emotional distress (Langman, 2015). A family whose child went to school with Lanza recalled a memory of Lanza where he created a "hand poem" where he wrote on his fingers the words "loser" and "ugly" for a class project (Office of the Child Advocate, 2014, p. 28). At the beginning of elementary school, Lanza was diagnosed with sensory-integration disorder. Sensory-integration disorder is one of the features of ASD. However, it has no official psychiatric status in isolation. In 2005, when Lanza was 13 years old, his parents took him to see Psychiatrist Paul J. Fox, who diagnosed Lanza with Asperger's Syndrome (which was a category that the American Psychiatric Association has now subsumed under the umbrella term of ASD). His parents found receiving this diagnosis to be useful but Lanza refused to accept the diagnosis (Solomon, 2014). Solomon (2014) discovered from conversations that he had with Lanza's father, Peter Lanza, that his son had poor eye contact, social relationship impairments, preservation of sameness, narrow interests, impaired communication skills and sensory issues. All of these features are consistent with a diagnosis of Asperger's Syndrome based on the *Diagnostic and Statistical Manual of Mental Disorders*, 4th Edition (DSM-IV, American Psychiatric Association, 2000) (Fitzgerald, 2010, 2015). Lanza was also diagnosed with obsessive-compulsive disorder (OCD) and, in 2006, he was referred for treatment for his conditions. He was given a prescription for Celexa (Citalopram, which is an anti-depressant) and was offered behavioral-based therapy (Schwarz & Ramilo, 2014). Lanza's mother strongly objected to the therapy and medication. Lanza stopped taking the

medication and going to the treatment sessions (he had only gone four times) (Schwarz & Ramilo, 2014).

At the time that Lanza received his diagnosis of Asperger's Syndrome in 2005, he was also experiencing significant social impairment and extreme levels of anxiety. It was the recommendation of the psychiatrist (Paul J. Fox) who diagnosed Lanza that he should be home-schooled. Any possible negative impact of social isolation would far outweigh any adverse impact that going to a regular school would have. Upon the psychiatrist's recommendation, from eighth grade onward, Lanza's mother taught him the humanities and twice a week his father would teach him science-related subjects (Solomon, 2014). His father, during an interview that took place in 2013, said he suspected that his son also had undiagnosed schizophrenia (Solomon, 2014; Goodwin, 2013). Lanza was still not able to attend high school classes by the end of 10th grade and was no longer involved in any mental health treatment. There is no indication that anyone questioned the fact that, if he was so debilitated, why was he never then hospitalized or referred for specialized educational placement. The report by the Office of the Child Advocate (2014) stated that the district failed to follow appropriate procedures. It did not monitor Lanza's Individualized Education Plan (IEP) progress or document any attempts to follow up with providers or the family about the psychiatric or pediatric care he was receiving (Office of the Child Advocate, 2014, p. 46).

When he attended regular school, Lanza experienced extreme anxiety and discomfort with changes, noise and physical contact with other people. His anxiety, Asperger's Syndrome, OCD difficulties and sensory issues all had a negative impact on his ability to engage with the school curriculum and his academic performance suffered as a consequence. A number of recommendations made, such as tutoring, desensitization (behavior therapies) and medication, were all refused by Lanza (Sedensky, 2013). One of Lanza's teachers, when he was in seventh grade, described him as quiet, someone who would barely talk and did not want to be involved in any activities. His writing assignments were also reported by teachers to be suggestive of someone who was obsessed with battles, destruction and war, particularly when compared to peers around the same age. The level of violent content in his writing was disturbing (Sedensky, 2013; Christoffersen, 2013). There is also no indication that he was able to develop any close friends during his time in school (Halbfinger, 2012).

On October 24, 2006, which was nearly a year after the community psychiatrist first carried out his evaluation of Lanza, Lanza's parents took him when he was 14 years old to Yale's Child Study Center. The intent was to evaluate if Lanza had OCD in the context of a "putative diagnosis of Asperger Syndrome." The Yale psychiatrist, Dr Robert King, who assessed Lanza, made the following observation in the initial report. Lanza presented as a "pale, gaunt, and awkward young adolescent standing rigidly with downcast gaze and declining to shake hands." (Office of the Child Advocate, 2014, p. 49). He also made a further observation that he "had relatively little spontaneous speech but responded in a flat tone with little inflection and almost mechanical prosody," which is a feature that is frequently exhibited in individuals with ASD (Solomon, 2014). Dr King also noted that Lanza exhibited

OCD symptoms. Numerous studies have shown that OCD is a commonly found comorbidity in individuals with ASD (e.g., Meier et al., 2015; Ruzzano, Borsboom & Geurts, 2015). For instance, Lanza would refuse to touch metal objects such as doorknobs (he would open doors using his shirt sleeve over his hand, for example) due to his worries about contamination of grease, dirt and dust. A former student recalled how Lanza would frequently pull his sleeves down to cover his hands if he needed to touch objects during class (Office of the Child Advocate, 2014, p. 72). He also disliked his mother touching things like doorknobs as well for fear of contamination. He had exhibited obsessive levels of clothes changing as his mother had to frequently do his laundry because he would change his clothes a number of times throughout the day (Sedensky, 2013; Office of the Child Advocate, 2014, p. 36). Dr King also noted in his report that "Adam imposes many strictures, which are increasingly onerous for mother" and also that "He disapproves if mother leans on anything in the house because it is 'improper.'… He is also intolerant if mother brushes by his chair and objected to her new high heel boots, because they were 'too loud.' … If mother walks in front of him in the kitchen, he would insist she redo it." (Solomon, 2014). Dr King also noted that he had a number of food rituals that were related to texture. It was also noted that, in seventh grade, Lanza had experienced a range of significant changes such as no longer talking on the phone, using email or engaging in outdoor activities. During this time, he had also become increasingly socially withdrawn and reclusive. It appears that Lanza received no psychological testing (Office of the Child Advocate, 2014, p. 49). The psychiatrist considered that Lanza was somewhere on the Pervasive Developmental Disorder or Autism Spectrum. He recommended further evaluation be carried out in order to clarify cognitive, social and linguistic strengths and weakness (Office of the Child Advocate, 2014, p. 50).

After the evaluation with the Yale psychiatrist, Lanza's mother stated that the evaluation did not appear to have "even a glimmer of hope attached to it." In fact, it was her belief that the evaluation just made things worse and she was concerned that Lanza was so angry about "the whole thing," that "short of strapping him down," she believed that he would not be willing to be seen by any doctors for a long time following his experience (Office of the Child Advocate, 2014, p. 53). She reported feeling "horrible" in the Yale interview process and also reported that Lanza had been "frustrated, and angry and anxious" during the evaluation with the Yale psychiatrist. She said that "His palms were sweating so much that his shirt got wet and he looked like he could have cried at any moment." Lanza's mother said that it was like he was "being tortured" (Office of the Child Advocate, 2014, p. 53).

Following the clinic's evaluation by the Yale psychiatrist, Lanza was briefly seen by the Advanced Practice Registered Nurse (APRN) coordinator of the PDD (pervasive developmental disorder) group, which is based at the Yale Child Study Center. In an interview with the Connecticut State Police following the attack, she stated that she had four face-to-face meetings with Lanza, which took place between October 2006 and February 2007. During this time, she had numerous email and telephone interactions with Lanza's parents. The APRN became aware, during the

course of treatment (not at the time of initial evaluation and meeting), that Lanza was also regularly being seen by the community psychiatrist. In interviews following the attack, the Yale psychiatrist and the APRN stated that they were unaware at the time they started carrying out their evaluation and treatment with Lanza that he was also being seen by the community psychiatrist at the same time. Subsequent contacts between the APRN and the community psychiatrist were made, which is contained in the records. However, there are no copies of any of that community psychiatrist's treatment records or evaluations. The APRN reported that Lanza was "emotionally paralyzed" and was severely impaired in being able to lead a normal life. Lanza asked the APRN questions about schizophrenia and obsessive-compulsive disorder (OCD) and the APRN talked to him about the clinical components of these disorders and of psychotic depression. However, he refused to share with the APRN if he was experiencing any symptoms of any of these disorders. The APRN also noted that Lanza had "many rituals and prohibitions for his behavior and the behavior of others." Lanza was in agreement with the clinician (to some extent) that he was emotionally paralyzed by anxiety. However, he did not believe he was suffering and refused to take any medication (Office of the Child Advocate, 2014, p. 53). The family made the decision not to continue with assessment or treatment at the Yale Child Study Center.

An evaluation from December 2006 from a Newtown school psychologist noted that Lanza was evaluated by the Yale Child Study Center and was diagnosed with Asperger's Syndrome, OCD and sensory issues. [Note: the Yale Child Study Center psychiatrist and APRN did not definitively ascertain whether Lanza had a diagnosis of Asperger's Syndrome. At the time of the evaluation The Yale psychiatrist was of the opinion that Lanza was somewhere on the Pervasive Developmental Disorder or Autism Spectrum]. There is no suggestion in the school records that the school personnel saw or considered the recommendations for treatment and education planning that were given in the report by the Yale psychiatrist who evaluated Lanza (Office of the Child Advocate, 2014, p. 58). As noted by the Yale Child Study Center in its earlier evaluation of Lanza, management of Lanza's symptoms would not be sufficient to help him. Instead, they recommended that he would require intense therapeutic and behavioral supports to enable him to meaningfully build skills and sustain progress (Office of the Child Advocate, 2014, p. 67).

Despite the recommendations made, there are no indications that any ongoing mental health evaluation and treatment was sought for Lanza in the last few years of his life (Office of the Child Advocate, 2014, p. 94). In the United States, youths who receive special education services are eligible for academic and transition services up until the age of 21 if it is considered that the continued provision of services is necessary to support the individual with making educational progress and in achieving agreed-upon goals and objectives. A youth may complete all their academic requirements and graduate but still be able to carry on with transition services (for instance, working on independent living skills) for a year or even longer. Lanza had not only a lack of transition planning, he left high school early (Office of the Child Advocate, 2014, p. 70). Interventions were recommended for Lanza but

he refused to take any of the prescribed medication and did not engage in the behavior therapies. No aggressive or threatening tendencies that would have predicted (or hinted at) his later actions were seen by any of the mental health professionals who saw Lanza (Bonanno & Levenson Jr, 2014). The Yale Child Study Center appears to be the only provider that Lanza saw that recognized the severity of Lanza's presentation, his need for extensive mental health and special education supports, and the need for medication in order to ease his obsessive-compulsive symptoms (Office of the Child Advocate, 2014, p. 8). The Office of the Chief Medical Examiner found that Lanza was anorexic at the time of death (six feet tall and 112 pounds), to the extent that he had malnutrition and it may have caused some degree of brain damage. It is not known if any concerns about his eating or weight were raised by Lanza's mother (Office of the Child Advocate, 2014, p. 8). The records show that Lanza's mother did consult with his pediatrician a number of years earlier regarding his weight. Also, by 2008, he was being prescribed Miralax for constipation issues, which seemed to be an ongoing issue that he suffered from (Office of the Child Advocate, 2014, p. 102).

Over a number of years, Lanza's mother would describe her son as having Asperger's Syndrome and had bought a number of books related to Asperger's Syndrome. She would refer to various features of Asperger's Syndrome, including his inability to establish eye contact, light sensitivity and significant distress when touched by someone (Sedensky, 2013). Lanza's mother had plans to sell the house in Newtown and move to Washington State or North Carolina. Lanza had preferred to move to Washington. Lanza's mother was going to purchase a recreational vehicle (RV), which they would live in while they were trying to sell the house because Lanza refused to stay in a hotel. After Hurricane Sandy, their house lost power. However, Lanza refused to stay in a hotel until this was sorted. If he experienced this much anxiety about staying in a hotel, it may be that the idea of moving to a new house in a new state was catastrophic for him (Bonanno & Levenson Jr, 2014). The prospect of the move to a new state may have increased Lanza's anxiety as he did not know where he was going to live and he was also going to be losing the sanctuary (the world of isolation) he had created for himself in his home. It is possible that these fears and anxieties, coupled with his pervasive preoccupation with mass shootings (in addition to the acceptance and encouragement he would get from the online group focused on mass shooters), finally pushed him from fantasy into action (Office of the Child Advocate, 2014).

Possible psychotic symptoms

It has been highlighted by Langman (2015) that Lanza described having periods of withdrawal and unresponsiveness, which may have been catatonic episodes. A range of things would make him withdraw into a nonresponsive state (e.g., loud noises, bright lights, or any sudden change or excitement). "It was like he would go into a trance," a description was recalled by one student. "It was a little scary.… He just seemed vacant. Like he wasn't there" (Lysiak, 2013, p. 43). The report by

the Office of the Child Advocate in Connecticut stated that his functioning "could suggest a possible psychotic break," it concluded that "a review of emails authored by AL [Adam Lanza] through the last days of his life suggests that his thinking, while highly idiosyncratic and verging on the bizarre with regard to mass murder, was not actively psychotic" (Office of the Child Advocate, 2014, p. 105). Langman (2015) points out that this conclusion was preceded by the comments that he "would cope by withdrawing into a detached private inner world," and that he had "fantasies that blurred the boundaries between inner experience and outer reality" (Langman, 2015, p. 104). The conclusion that he was not "actively psychotic" is followed by a subsequent paragraph that states: "It is possible that he increasingly lost touch with reality" (Langman, 2015, p. 105).

The Office of the Child Advocate in Connecticut report does not conclude that Lanza was psychotic. Nevertheless, the report on a number of occasions describes Lanza as having potentially lost touch with reality and psychosis is defined as a loss of touch with reality. The strongest evidence indicative of Lanza's potential psychosis was not made publicly available until June 18, 2015, when Reed Coleman published his blog, which he entitled "Exclusive: Private Messages Sent by the Sandy Hook Shooter" (Coleman, 2015). Coleman had got two messages that were sent by Lanza to people that he knew from the online forum he was a member of (the forum was originally called "Super Columbine Massacre RPG" and later renamed "Shocked Beyond Belief"). The first one of these messages relates to Lanza's possible psychosis. (Lanza's writing is quoted exactly how he wrote it). He wrote, "I have images of distorted faces flashing through my mind," noting that "the faces are fairly mundane, and they sporadically rapidly appear without any context and then disappear" (Coleman, 2015). Interestingly, Lanza refers to these as "hallucinations." Lanza putting the word hallucinations into quotation marks would suggest that he was uncertain if they were really hallucinations. He said that the distorted faces he saw were mundane but they nevertheless frightened him, which is illustrated by the following comment he made, "I get slightly paranoid over them" and he said that, after experiencing the hallucination, he had to search his bedroom to assure himself that he was alone (Langman, 2015). Lanza then described what may have been his first major psychotic episode:

> The incident was so surreal that I only remember a small amount of the details. Basically, I began to "see" many different things. Although I knew that none of it was actually real, it came as close to being real as it could for me without it being physically tangible. I heard screaming around me, and I had an overwhelming sense that there was someone dead behind me. I kept seeing silhouettes of flickering people everywhere. I felt like I had to cry.
>
> *(Coleman, 2015)*

He describes how this entire ordeal, which was the strangest thing he has ever experienced, lasted for approximately 15 minutes. Interestingly, Lanza makes reference to both auditory and visual hallucinations in this post (Langman, 2015).

Langman (2015) argues that there may have been more to the experience than Lanza describes in his post given his comment that he only remembered a little of the experience. The experience he had earlier of seeing faces (that made him paranoid) may have been the gradual onset of psychosis that eventually led to a psychotic break (Langman, 2015). Lanza wrote online about his psychotic experience on October 3, 2010 (Coleman, 2015), which was over two years prior to his attack. Throughout these two years leading up to the attack, his symptoms may have worsened. There is no available evidence on this, but we do know that in other domains he become increasingly less functional in the two years prior to his attack. For instance, withdrawing from his family (dad, brother and eventually only talking to his mother via email even though they lived in the same house), stopped taking his college classes and stopped posting anything on the online forum "Shocked Beyond Belief" (Coleman, 2014), and would spend increasingly more time in social isolation at home. Langman (2015) tentatively suggests that Lanza may have been severely psychotic by the time he carried out the shooting, based on available information.

Military failure

Lanza's uncle had been a marine and was someone that Lanza looked up to. When he was younger, he said, "I'm going to be just like Uncle Jim." (Lysiak, 2013, p. 69). Later, when he wanted to apply to become a marine, his mother dissuaded him and said that he would "never be a marine." (Lysiak, 2013, p. 70). It was reported that Lanza "took the news harder than even his mother expected." (Lysiak, 2013, p. 71). It is of note that "in the months leading up to the massacre, Lanza would dress himself up head to toe in a camouflage military uniform and target shoot with a pellet gun in his basement." (Lysiak & Schapiro, 2013). On the day that he carried out his attack, he was wearing military gear. It may be that, for Lanza, aspiring to join the military was synonymous with aspiring to manhood (Langman, 2017).

Early indications of Adam Lanza's preoccupation with violence

There were early indicators that Lanza had a preoccupation with violence. These early indicators took the form of extremely graphic and disturbing writings. For instance, in fifth grade, Lanza created, along with another boy in his class who was a co-author, an extremely disturbing and violent project that they called "The Big Book of Granny" in which the main character has a gun in her cane and shoots people (Sedensky, 2013, p. 33; Office of the Child Advocate, 2014). The length and tone of the content of the book was considered to be obsessive and featured intense violence. The book comprised images and narrative depicting child murder, cannibalism and taxidermy. The report stated that the majority of children would not even know how to invent some of the intense violence featured in the book. For instance, one part describes the following story:

> When Granny escapes boot camp and goes home to Granny's Son, she tells him that she left boot camp because she killed the entire Marine legion. In chapter six, Granny and Granny's Son are picked up from the side of the road by Dora the Beserker. Dora tells Granny that she can take her wherever she needs to go, after they go to the daycare center. When they arrive at the daycare center, Dora sends Swiper the Raccoon inside to distract the children. Then Dora enters and says "Let's hurt children."
>
> *(An illustration from "The Big Book of Granny": Adam Lanza's draw from 2005, 2014)*

Even if "The Big Book of Granny" had prompted the need for mental health evaluation and intervention (which would have been appropriate), it remains unlikely that it would in any way have predicted the extreme violence that was to follow at that time. Lanza appeared placid (or "neutral" as described by one teacher later). However, what this book shows is a 10-year-old boy who is struggling with disturbing thoughts of extreme violence (suggestive of significant emotional conflict) (Office of the Child Advocate, 2014, p. 34). The mental health professionals who contributed to the Report of the Office of the Child Advocate (2014) stated that, had the content of "The Big Book of Granny" been reviewed by staff at the school, it would have highlighted the need for referral for evaluation by a mental health professional. However, the mental health professionals that contributed to the report emphasized that teachers may not have the training and expertise to inform them how to identify warning signs or "red flags," when to request assessments or consider further evaluations of children who are experiencing difficulties with socialisation.

Significant interest in firearms and weapon proficiency

Lanza had a fanatic fascination and familiarity with (as well as access to) firearms and ammunition, even from a young age (Pilkington, 2013; Sedensky, 2013; Murray, 2017). It was also believed by law enforcement officials that Lanza "may have taken target practice in the basement" (Kleinfield, Rivera & Kovaleski, 2013). Shooting was a hobby that the family engaged in. Lanza would go to a range with his brother and mother. Lanza's mother had grown up with firearms and also had a pistol permit. Lanza did not have a permit for any type of weapon. Lanza and his mother took National Rifle Association (NRA) safety courses (Sedensky, 2013, p. 31). Lanza devoted a substantial amount of time to playing violent video games (Sedensky, 2013, p. 25). A police officer who was interviewed about the case believed that Lanza's obsession with playing violent games may be how he learned the principles of the "tactical reload." "Tactical reload" is a procedure that saves time while moving from room to room and is a procedure taught in the police academy (Lupica, 2013). Lanza was immersed in a 24/7 world of violent video games (in which, it has been suggested, he was quite proficient). He was also in training for his eventual attack – the fantasy world of online gaming had become his reality (Murray, 2017).

Preoccupation with mass shooters

When he was 14 years old, Lanza developed his obsession with killing. He started to edit entries on mass murderers on Wikipedia, providing significant detail (Solomon, 2014). Police believe that Lanza's research on previous mass shooters was extensive. He had a particular fascination with Anders Behring Breivik. He may even have replicated some of Breivik's "techniques" as Lanza also played the same first-person shooter video games for the purpose of training in preparation for the attack (Sedensky, 2013). It has also been reported that Breivik was similarly fascinated by other mass murderers (Lysiak, 2013). He also had a preoccupation with the Columbine shootings (Sedensky, 2013; Winter et al., 2013). Lanza's computer also contained Kip Kinkel's confession and documents about George Sodini, Robert Hawkins and James Huberty (Langman, 2017). He also collected newspaper articles about school shootings (e.g., a school shooting that occurred in 2008 in Northern Illinois University and some from 1891 about the shooting of schoolchildren) (Bonanno & Levenson Jr, 2014).

Additionally, a summary of the official investigation into the tragedy in Newtown provided new details regarding Lanza's behavior in the lead up to his attack (Sedensky, 2013). The report also detailed one of the findings from the investigation, namely, a seven-by-four-foot sized spreadsheet with detail on about 500 mass murderers. The spreadsheet contained extensive detail on each attack including data on the victim counts and weapons used by the mass shooter (Altimari, 2013; Chappell, 2013). One anonymous law enforcement veteran stated that "It sounded like a doctoral thesis, that was the quality of the research" (Lupica, 2013). Such is the level of detail that it is believed to have involved years of work and was used as a "score sheet" (in terms of body counts of the mass shootings, etc.) by Lanza (Lupica, 2013; Gendreau, 2013). His research on mass murderers could rival any academic (Murray, 2017). Lanza studied mass murderers perhaps more than any other school shooter had (Lysiak, 2013; Langman, 2017a). There is multiple evidence that Lanza had planned his school shooting: he had materials relating to mass murders, he had removed his Global Positioning System (GPS) from his car, he used ear plugs while he carried out the shooting, he deliberately damaged his hard drive so investigators were not able to recover any of the information on it and he also waited for his mother to return from New Hampshire and then killed her with multiple gunshots to the head (Bonanno & Levenson Jr, 2014).

It was initially believed that Lanza had left no internet footprint. However, this was later found to be incorrect. Reed Coleman carried out an exhaustive search and concluded that Lanza had edited Wikipedia, had posted on YouTube and made frequent contribution to an online forum called "Shocked Beyond Belief." This online forum was focused on mass murderers. Coleman has written a number of in-depth articles that have documented the content of Lanza's online postings and has also provided evidence to support that the posts were actually written by Lanza (Langman, 2015). Lanza contributed regularly to an online forum where like-minded individuals shared information about mass shooters and revered them

for more than two years. He would participate in online debates about which were the most famous school shooters and why this was the case. He was particularly fascinated by the amount of attention and fame they got following their attacks. His fascination with mass shooters is illustrated by the following comments he made on the online forum: "my catalog of mass murderers" and "my favorite mass shooters" (Langman, 2015b).

Lanza joined the mass-killer website, "Shocked Beyond Belief," using the screen name "Smiggles" on December 29, 2009. For explanations of how Coleman evidenced that Smiggles was Lanza, see Reed Coleman's post "Brief review of the evidence against 'Smiggles.', 2015]. Fame among shooters is a matter of competition. Lanza's recognition of this can be seen in some of his posts online (Langman, 2015b). In one of his posts (posted on August 28, 2011) on a violent video game fan site using the screen name "Smiggles," Lanza praised Anders Breivik and displayed that he was impressed with him. He said that Breivik was able to kill more people than the previous record holder from South Korea ("In a 'My political ideology finally gets some attention' sense, a 'Someone finally outdid Woo Bum-kon' sense"). In the same thread where he talked about Breivik, Lanza also make reference to Theodore Kaczynski, also known as the "Unabomber," "I'm normally not interested in non-Kaczynski bombers, but the format and organization of everything involved was such an impressive instance of mass murder self-actualization that it seemed fictional," he stated in his post. "I wouldn't call it encouraging, but it seemed motivational enough in some sense that it was the kind of thing you would find in a particularly macabre self-improvement book."

Online, Lanza also talked about the huge numbers of fans that mass shooters gain following their attacks (Langman, 2015). Langman points out here that Lanza was clearly one such fan. Lanza wanted his own fans, which may be why he decided to carry out his attack in an elementary school, an unprecedented target at that time. In successive cases of fame-seeking shootings, each may be strongly motivated to obtain increasingly more novel and attention-grabbing ways to carry out their attacks and better the others that came before them (Lankford, 2016b). Social networking sites enable users who are interested in morally dubious material to find others who are like-minded (Oksanen, Hawdon & Räsänen, 2014). For many school shooters, the internet may have been a source of in-group support for the hostility that they turned outwards (Markward, Cline & Markward, 2001). Additionally, it may be possible that Lanza fostered and nurtured his obsessive interests in mass murder given the lack of parental oversight of his online and electronic activities (Office of the Child Advocate, 2014).

Other areas of interest to Lanza as identified by searches on recoverable hard disk drives and computers, etc.

The police report on the Sandy Hook attack noted a variety of materials on Lanza's computer that were related to pedophilia. For instance, a document which was "advocating pedophile's rights," a screenplay "describing a relationship between a

10-year-old boy and a 30-year-old man," a "Profile of a pedophile," and a "movie depicting a man/boy relationship" (Sedensky, 2013a, pp. A215–A216). The report by the Office of the Child Advocate also made reference to an essay that was found, written by Lanza, where he had produced an undated and lengthy essay about his position that pedophilia should not be considered to be abhorrent or illegal. Lanza identified this essay as being a college admission application text (p. 101). Lanza stated that the word count limit was 500 words. However, his essay was excessively longer than this at 34 pages (Langman, 2015). It was also revealed that Lanza had a script and a movie that showed sexual relationships between children and adults. These findings raise a number of important questions. Was Lanza sexually attracted to children? Was his attack motivated by sexual frustration, killing the object of his desires that he could never have? Langman also points out that investigators also found two fictional pieces on Lanza's computer about babies attacking him and he had to defend himself. This raises the question about whether he was experiencing paranoid delusions about babies and children. Was Lanza's act of killing children a form of self-defense in his mind?

Investigators searched electronic evidence or digital media on Lanza's computer hard drive and/or memory card and found: "bookmarks pertaining to firearms, the military, and mass murder; two videos showing suicide by gunshot; commercial movies depicting mass shootings; the computer game titled 'School Shooting'; images of a shooter holding a rifle, handgun and shotgun to his head; a five-second video (dramatization) depicting children being shot; and documents on weapons, magazine capacity, and the prerequisites for a mass murder" (Sedensky, 2013, pp. 26–27). Lanza had another computer hard drive but Lanza had destroyed it prior to the attack and investigators were unable to recover anything from the damaged drive. Numerous video games were located in the basement computer/gaming area. The list of video games includes: "Left for Dead;" "Metal Gear Solid;" "Dead Rising;" "Half Life;" "Battlefield;" "Call of Duty;" "Grand Theft Auto;" "Shin Megami Tensei;" "Dynasty Warriors;" "Vice City;" "Team Fortress" and "Doom." However, this is not an exhaustive list of the video games that were found that Lanza owned (Sedensky, 2013, p. 25). Other items found and noted in the report produced by Sedensky (2013) include:

- A Christmas check from the mother to the shooter to purchase a CZ 83 firearm;
- A *New York Times* article from February 18, 2008, regarding the school shooting at Northern Illinois University;
- Three photographs of what appear to be a dead human, covered in blood and wrapped in plastic;
- The book *Amish Grace: How Forgiveness Transcended Tragedy*, Jossey-Bass, 2007, by Donald B. Kraybill, Steven Nolt and David Weaver Zercher; and
- Photocopied newspaper articles from 1891 pertaining to the shooting of school children (Sedensky, 2013, p. 26).

The review of the electronic evidence found at Lanza's home also identified numerous things that probably had no relevance to the investigation (Sedensky, 2013). That being said, the report by Sedensky (2013) listed the following selected topics or items that were found within the digital evidence that was seized:

- Bookmarks pertaining to firearms, military, politics, mass murder, video games, music, books, Army Ranger, computers and programs, ammunition, candy, economic books;
- Web page design folders;
- Two videos showing suicide by gunshot;
- Commercial movies depicting mass shootings;
- The computer game titled "School Shooting" where the player controls a character who enters a school and shoots at students;
- Screen shots (172) of the online game "Combat Arms;"
- "Dance Dance Revolution" (DDR) game screen shots;
- Videos of shooter playing DDR;
- Images of the shooter holding a handgun to his head;
- Images of the shooter holding a rifle to his head;
- Five-second video (dramatization) depicting children being shot;
- Images of shooter with a rifle, shotgun and numerous magazines in his pockets;
- Documents on weapons and magazine capacity;
- A document written showing the prerequisites for a mass murder spreadsheet;
- A spreadsheet listing mass murders by name and information about the incident;
- Materials regarding the topic of pedophilia and advocating for rights for pedophiles (not child pornography);
- Large amount of materials relating to Columbine shootings and documents on mass murders;
- Large amount of materials on firearms;
- Comedy videos;
- Music;
- Images of hamsters;
- Images of Lego creations (Sedensky, 2013, p. 26–27).

Increasing isolation

Both of Lanza's parents said that he experienced bullying when he was younger. Lanza's father reported that the bullying he experienced was not excessive and was about his social awkwardness and physical gait. No overt bullying was recalled by other witnesses. It also appears that Lanza did not have many friends while he was growing up (Sedensky, 2013, p. 29). In ninth and 10th grades, he started to become a reclusive and would remain in his bedroom all day playing video games. Lanza did own a cell phone but there is no evidence that he ever used it (Bonanno

& Levenson Jr, 2014). He progressively became more of a loner and more socially isolated in his late adolescence (Office of the Child Advocate, 2014, p. 25). Towards the end of 2010, Lanza's relationship with his father deteriorated. Lanza's father last saw him in that year. Lanza's father would still regularly contact Lanza by mail or email, asking him to meet up with him at a number of different locations for a variety of activities. At some point prior to December 2012, Lanza began to ignore his father's emails and letters (Sedensky, 2013, p. 30). In 2011, his father remarried. When Ryan, Lanza's older brother, finished college he moved out of state and had no contact with Lanza from 2010 onwards. Therefore, in the two years prior to the shooting, Lanza had decided to cut off contact with his father and his older brother (Curry, 2013; Bonanno & Levenson Jr, 2014). By the summer of 2012, he had stopped seeing his one and only friend after a dispute over a movie.

In November 2012, it was reported that Lanza's mother was concerned about him because he had not left the house in three months and was only communicating with her using email despite the fact that they were both living together in the same house (Sedensky, 2013, p. 28). After the shooting, the investigation also recovered a document on Lanza's computer that was about the inherent selfishness of women, which was titled "Selfish" (Curry, 2013). Lanza was reported as not being emotionally connected to his mother by one witness. Shortly before the attack, Lanza's mother asked him if he would feel bad if anything happened to her; he replied, "No." There have been other people who said that they believed that Lanza was close to his mother and, in fact, she was the only person that Lanza would talk to (Sedensky, 2013, p. 30). There is no evidence that suggests that Lanza consumed alcohol, took drugs (illegal or prescription). In fact, it is reported that he hated the thought of doing those kind of things (Sedensky, 2013, p. 30).

It is also useful to describe in some detail Lanza's living environment. It was revealed that Lanza had been living with the windows in his bedroom and computer room taped over with black garbage bags or white material. No one was ever allowed in his bedroom (Sedensky, 2013, p. 25).

The excerpt below is taken from a blog post that was written by Lanza (Langman, 2015a – see Coleman, 2015).

> I absolutely hate sunlight, along with any artificial light which resembles it. … I hate having my skin exposed to sunlight, so I always wear a hooded sweatshirt and full length pants, even in the hottest weather.
>
> *(Coleman, 2015)*

In November 2012, Lanza's mother was concerned about him. He had not left the house in three months and would only interact with her using email despite both living under the same roof (Sedensky, 2013, p. 28). It appears that Mrs Lanza attributed all of Lanza's behaviors to his Asperger's Syndrome. She also felt that he had no emotional connection to her. There are no indications that Mrs Lanza shared her concerns about Lanza to any mental health or medical professional (Office of the Child Advocate, 2014, p. 103). Mr Lanza noted that Mrs Lanza had not spoken

to any other family members about what Mr Lanza referred to as Adam Lanza's "seclusion." Following the shooting, Mr Lanza talked to a close relative of Mrs Lanza's who also said that Mrs Lanza had not discussed with them the severity of Lanza's presentation in the months leading up to the shooting (Office of the Child Advocate, 2014, pp. 97–98).

It appears that Lanza divided his life between different types of escape in which he made minimal personal contact with others. Specifically, he physically shut off from the outer world in his room while immersed in a fantasy cyber-world or engaged in a dancing game (Office of the Child Advocate, 2014, pp. 98–99). The dancing game that Lanza spent a significant amount of his time playing is called "Dance Dance Revolution" (DDR), which is a music video game where the player stands on a platform while watching a video screen and moves their feet as shown in the video. The GPS that was found by investigators in the home, and is believed to have been Lanza's, suggested he regularly went to the part of a theater where there was a commercial version of the DDR game, which was located in the lobby. In 2011 and up until a month prior to December 14, 2012, Lanza would go to the theater to play DDR. He would go to the theater nearly every Friday through to Sunday and would play the game from anywhere between four to 10 hours (Sedensky, 2013, pp. 30–31).

When playing DDR, he would whip himself into a frenzy. There were some days where he would only play DDR. He tended to engage in this activity alone with the exception of his one friend that he had at the time. Sometimes Lanza would play DDR for as much as 10 hours at a time, playing till he was drenched in sweat and not eating for long stretches. At this point he would wipe himself off in the bathroom and would occasionally resume playing the game. It is possible that DDR provided Lanza with a complete distraction and perhaps a containing device for his anxiety producing impulses and thoughts as he danced himself into a state of physical exhaustion before returning to his self-imposed isolation at home (Office of the Child Advocate, 2014, p. 98).

Adolescent mass shootings: developmental considerations in light of the Sandy Hook shooting

Rice and Hoffman (2015) have argued for the need to understand adolescent and post-adolescent young males who engage in mass shooting attacks from a developmental standpoint. For instance, they hypothesise that, in the case of Adam Lanza, his frustrated effort to progress along normative development contributed to his extremely violent act. They hypothesise that there are numerous factors that were involved in setting Lanza down the path towards intended violence (see also Faccini, 2016). One of the key contributory factors discussed by Rice and Hoffman (2015) in their paper was the detached relationship that Lanza had with his father, which appears to be an intergenerational pattern. Another key factor described by Rice and Hoffman (2015) was the fact that Adam's mother (who was a gun enthusiast) selected firearms as the means to connect with her son and frequently took him

target shooting – the reasons for which are unknown based on the data available (Rice & Hoffman, 2015). It is likely that Adam Lanza's access to firearms and the psychological importance of these weapons also presented as contributory factors leading to his attack. Lastly, the authors also highlighted that a mother-son constellation/relationship that is "suffused with violence and inability to separate" (Rice & Hoffman, 2015), as was observed in the case of Lanza and his mother, is "generative for future mass violence." Such a mother-son constellation was detrimental to Lanza's ability to progress along normative development, which may have also been a key contributory factor to his attack.

Despite how similar characteristics between adult and juvenile offenders may be in terms of the attacks themselves, the juvenile offenders will generally be emotionally immature (Palermo & Ross, 1999). Rice and Hoffman (2015) postulate that adolescents are "violence-prone" because of two primary developmental feats that they need to accomplish. First, they need to be able to cope psychologically with an increased body awareness, their increasing desires and the physical changes that are occurring. Second, they need to begin to develop attachments to other people other than the attachments that they have with their parents and their view that parental attachment is the only one that is important. Adolescents are vulnerable if they are not able to accomplish these two developmental feats. Accomplishment of this second developmental feat can be hindered or prevented when the individual as a child experienced a "conflicted maternal relationship" (Rice & Hoffman, 2015). There is also the well-established literature that has shown that, at the start of puberty, the limbic region of the brain is fully developed and is thought to override executive functions (including decision making and forward planning) that are controlled by the prefrontal cortex, which is not fully developed at this stage (Blakemore & Choudhury, 2006).

Mapping the trajectory of school shooters

Pathway to intended mass violence in the case of Lanza

In his theoretical paper, Faccini (2016) applied two different models in an attempt to understand the pathway to intended mass violence in the case of Lanza. He integrated the three factors of autism-based deficits, psychopathology and deficient psychosocial development with the "Path to Violence" model in order to understand the possible route to mass shooting in a very small subgroup of individuals with ASD. The "Path to Violence" model comprises of six behavioral stages according to Calhoun and Weston (2003), which include: holding a grievance (e.g., due to a perceived sense of injustice, a threat or loss, a need for fame or revenge), ideation (believing violence to be the only option, sharing one's thoughts with others or modelling oneself after other assailants – such as high profile mass shooters), research and planning (gathering information on one's target or stalking the target), preparations (obtaining one's costume, weapon(s), equipment, transportation or engaging in "final act" behaviors), breach (investigating levels of

security, devising "sneaky or covert approach") and, finally, attack (Faccini, 2010). Faccini (2016) applied the case of Lanza to these combined models in order to understand the process that Lanza went through in order to carry out his attack. The model highlighted how Lanza experienced a sense of a threatening world due to the presence of a range of comorbidities, including: sensory processing difficulties, contamination rituals, anxiety and exaggerated fears. Lanza's arrival at the first stage of the path to intended violence ("grievance") was his perception of a threatening world, which was "exacerbated by progressive losses." In the case of Lanza, "the nexus of the two models occurred when autistic restricted interests in death and violence, combined with depression and suicidal ideation, progressed into a fascination and restricted interest in mass shootings and shooters." (Faccini, 2016, p. 1) In the path to intended violence, consistent with the second of six stages ('ideation'), Lanza was fascinated with weapons and other mass murderers (e.g., Anders Behring Breivik).

There are other models that have also been developed to map the pathway to violence in school shooters. For instance, the stages-of-change model has been applied to school shootings (Mongan, Hatcher & Maschi, 2009). By applying the stages-of-change model to school shootings, it becomes possible to understand the path to intended violence in the individual. However, this model would not enable the accurate prediction of a school shooting (O'Toole, 2000). The stages-of-change model consists of six stages that a student would move through before carrying out their attack. Although there is a clear distinction between each of the stages, an individual's pathway through the stages can be fluid. For instance, a student may be operating somewhere between the stages of contemplation and preparation, but not be firmly set in one stage or the other. That student may end up going back and forth between the stages of contemplation and preparation a number of times before returning to the precontemplation stage or going to the action stage. However, once a student arrives at the action stage, they have developed the commitment to carry out their intended actions. At this point, it is unlikely that the individuals will move back into the earlier stages of preparation, contemplation or precontemplation, unless there is outside intervention or "sudden shift in the decisional balance" (Mongan, Hatcher & Maschi, 2009). For each of the six stages, there are a number of identifying signs (thoughts, feelings and behaviors) that can be shown in individuals at-risk. Stage 1: Precontemplation (the individual starts to have thoughts about planning or engaging in a school shooting); Stage 2: Contemplation (where the individual feels unfairly treated, has "grandiose" ideas of getting back at the school or others); Stage 3: Preparation (where the individual weighs the pros and cons of attempting a school shooting, has morbid fantasies of death, starts to develop a plan of attack); Stage 4: Action (commits to follow through on plan, withdraws from others, acquires weapons necessary for the attack); Stage 5: Maintenance (establishes a plan and sets a date for the attack, spends time rehearsing plans – which can be practicing it or thinking about it) and, lastly, Stage 6: Termination (where the individual feels attack is justified, carries out the attack – murder and/or suicide).

Crime script analysis

Research in criminology has recently started to adopt temporal methods, such as Behavior Sequence Analysis (BSA) (Keatley, 2018; Keatley et al., 2018), Indicator Waves (Keatley & Clarke, 2018) and Crime Script Analysis (CSA) (Leclerc & Wortley, 2013), which enable researchers to systematically and methodically map the life histories and antecedent events and behaviors that eventually culminated in the individual carrying out a school shooting. The intention of temporal research is not to negate or undermine research that has been carried out looking at risk factors. Instead, it attempts to go beyond this by not just identifying what the possible risk factors are in each case but also whether the sequence or order they occur in is significant. Specifically, temporal analysis enables researchers to examine whether the progression of numerous behaviors is more likely to end in a school shooting attack when compared to other sequences (Keatley, McGurk & Allely, 2019).

Keatley, McGurk and Allely (2019) carried out a study that applied the CSA approach to school shooting attacks in order to document the types of dynamic behaviors and antecedents that school shooters progress through in the lead up to their shootings. In other words, mapping and describing the temporal development of school shootings. Crime Script Analysis (CSA; Cornish, 1994; Ekblom & Gill, 2016) was used, which is the first time it has been applied to the area of school shootings. Sixteen individual cases of school shootings that occurred in the United States were examined. Most cases involved a male shooter ($n = 15$); and the average age was 20.68 years (SD = 10.09, range = 11–55). An average of 11.88 (SD = 12.41, range = 2–45) people were killed in the school shootings. An average of 15.44 (SD = 14.14, range = 1–58) people were injured in the school shootings. The most used weapons were guns. However, bombs or dynamite were also used in a number of the other cases. Cornish (1994) has recommended that a series of universal script scenes should be used in CSA, including: preparation; entry; pre-condition; instrumental actualization; doing; post-condition; and exit. These provided a useful starting point in the study. After analyzing and structuring the data, five empirical scenes emerged, which were renamed in order to make them more specific and relevant for a school shooting crime script. The five sequential scenes were: (1) influences; (2) operational; (3) reconnaissance; (4) activity; and (5) withdrawal. One of the key advantages of CSA is that a range of cases can be collected and analyzed parsimoniously, to provide a universal script. The systematic approach and universal script enables others to also carry out the same analysis on other cases to build on the ones developed in the study by Keatley and colleagues (2019) in order to develop a database.

School shooting and cumulative strain: five-stage sequential model

Levin and Madfis (2009) have proposed a five-stage sequential model in which a number of criminological theories (specifically, strain theory, control theory and

routine activities theory) are integrated to demonstrate their cumulative effect. These stages include the following: chronic strain, uncontrolled strain, acute strain, the planning stage and the massacre. Chronic strains are long-term frustrations that are experienced early in life or in adolescence, which eventually lead to social isolation. The resultant lack of prosocial support systems (uncontrolled strain) subsequently allows a short-term negative event (acute strain), which can either be real or imagined, to be particularly devastating to the individual. This acute strain initiates a planning stage. In the planning stage, the individual begins to fantasize about a mass killing as being the only way to regain lost feelings of control, and actions are taken to make the fantasy a reality. The planning process concludes in a massacre facilitated by weapons.

Summary

If we are going to comprehensively study school violence, we need to see it as being the outcome of a constellation of contributing causes, none of which themselves is sufficient to explain a school shooting (Muschert, 2007; Henry, 2009). There is no single causal factor that propelled Lanza to carry out the shooting. Instead, there were multiple pathways that culminated in the eventual attack, including: loss of school; absence of work; disruption of the relationship with his one friend; virtually no personal contact with family; virtually total and increasing social isolation; fear of losing his home and of a change in his relationship with his mother, who was his only caretaker and connection; worsening psychiatric mental health (OCD, depression and anxiety); profound and potentially worsening anorexia and an increasing preoccupation with mass murder occurring in the absence of any interaction with the outside world. Lanza had become increasingly disconnected from reality and was living in isolation in an alternate universe in which his ruminations about mass shooters were his central preoccupation (Office of the Child Advocate, 2014, p. 104).

Summary points

- No single cause propels or drives an individual to perpetrate a school shooting. Instead, school shooting is the result of a wide range of causal processes (Garbarino, 1999; Henry, 2000, 2009; Newman et al., 2004).
- Studies that have been commissioned by the Secret Service (Vossekuil et al., 2002) and the FBI (O'Toole, 2000) have indicated that there does not exist a psychological profile or a check list of personality and character traits that can be used to reliably predict who will become a school shooter.
- School shootings are rarely impulsive. Instead, they are frequently well-planned over days, months and sometimes years before the attack. During the planning and preparation stages, the majority of school shooters provide clues or warning signs that they are contemplating an attack (Vossekuil et al., 2002). These behaviors are known as leakage. Leaking is a term used to refer to observable

behavior or statements that signal intentions of an attack (Bondü & Scheithauer, 2014a). For instance, the Columbine High School shooters planned their attack for over a year and during this time they gave many warning signs. One example of a warning sign was a story that was written for English class by one of the shooters. The essay was about a shooting spree carried out by an assassin wearing a black trench coat (CBS News, 2001).

- Programs and strategies to prevent rampage school shootings are underdeveloped. The most effective form of prevention is in encouraging the recipients of warnings, threats and other forms of advanced notice to come forward and notify authorities (Newman et al., 2004; Bushman et al., 2016).

Essay/research questions

1. Why were so many shooters focused on the military?
2. What is the significance and relevance of verbal and written "leakage" for threat assessment and predicting future violence?
3. What are the significant commonalities between the school shooter's personality, background and family circumstances?
4. What are the motivations of those who kill students in a school setting?
5. What have researchers noted as the most common risk factors of those who commit school shootings?

Recommended reading

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Resources

www.schoolshooters.info – website for the investigation of school shooters from a psychiatric perspective run by Dr Peter Langman, who is known for his work on school shooters through his book and publications.

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6

THE PSYCHOLOGY OF TERRORISM AND LONE-ACTOR TERRORISTS

The psychology of terrorism

Terrorism is a strategy that uses public violence in order to effect social or political change. However, for an act to be categorized accurately as terrorism or terroristic in nature, it must feature the proximate victimization of non-combatants (e.g., civilians) to influence far-more-distant actors (e.g., governments) and agendas (Taylor, 1988). Individuals who are killed in the name of some cause or movement are simply a convenient, symbolic means toward attaining a much more ambitious target according to the terrorist (Hoffman, 1998; see Horgan, 2017). The events of September 11, 2001 were a significant catalyst for research in the field of terrorism. What is particularly unusual, however, it is that researchers with a psychology background have been a "very minor contributor and one that has arguably grown less active and vigorous over time" (Silke, 2003, p. xvii). There have been a number of systematic literature reviews that have been published that support this (e.g., Borum, 2011a, 2011b; Victoroff, 2005). It is not clear why there exists this apparent reluctance of psychologists to work in the field of terrorism research. One positive development in terrorism research since 9/11 was highlighted by Silke (2008, p. 47) when he noted that there has been a "real increase in collaborative studies." This does not negate the fact that there is relatively little contribution from the field of psychology to terrorism research (Silke, 2003; Taylor, 1988). Gordon underlined that the majority of the publications on terrorism were the work of "one-timers" (Gordon, 2007). Moreover, since 9/11, terrorism research is still limited by a lack of methodological complexity, a lack of primary data and few scholars that are dedicated to terrorism research (Schuurman, 2018).

For nearly half a century, researchers have been investigating the relationship between mental disorders and terrorist engagement. During this time, the field has witnessed four paradigms of both conceptual and empirical development.

The explanatory emphasis of mental health disorders went from being the center to the periphery of psychological enquiry (Gill & Corner, 2017). For example, the majority of the earlier studies where mental health disorders were the center of psychological enquiry considered specific mental health disorders as being causal to the engagement in terrorism (Cooper, 1978; Pearce, 1977). A few decades following these early studies, many studies abandoned this idea of mental health disorders as being the center of psychological enquiry and even downplayed the existence of mental health disorders in terrorists (Abrahms, 2011; Post, 2005, 2007; Sher & Rice, 2015). They maintained that terrorism could never be fully understood by retreating to debates surrounding the existence of mental health disorders in its adherents (Silke, 2003). However, the emergence of new types of terrorist actors has prompted researchers such as Gill and Corner (2017) to readdress this relationship. Recently, there has been some work being conducted that has found a middle ground that mental health disorders are viewed as being just one single factor amongst numerous others, but that this is not the case for all terrorists everywhere (Gill & Corner, 2017). What has also recently emerged is a widespread agreement in the psychological literature on terrorism that it is situational factors rather than personal qualities that determine whether someone will engage in terrorist behavior. However, that is not to say that there is no role for personal disposition. It is just simply that, to date, no studies have identified individual qualities to have any useful predictive utility in determining who will engage in terrorism (Monahan, 2017). There is a very real need for further research to explore just where in the terrorism process personal disposition matters, and exactly how (Merari, 2010; Horgan, 2017). Moreover, terrorist psychology has shifted from being just focused on the question of why someone becomes involved to exploring the entire "arc" of terrorism – from involvement, to engagement, to disengagement. This shift is leading a number of new and exciting developments (Horgan & Taylor, 2011).

Recruitment and selection

Empirical research that has been conducted on members of violent extremist organizations (VEOs) has indicated that a consistent recruit "profile" does not appear to exist (e.g., Bakker, 2006).

There are a broad range of reasons why individuals join such organizations (Rae, 2012). Individuals may be attracted to terrorist organizations for a number of reasons, including:

a. opportunities for excitement;
b. grievances and the opportunity to achieve retribution for them;
c. opportunities for camaraderie; and
d. existing friends or relatives sympathetic to or already involved with the organization.

(see Horgan, 2009; McCauley & Moskalenko, 2008)

In the same way that the possible reasons for joining VEOs can be varied, so too can the type of individual who becomes involved with terrorist organisations (Hunter et al., 2017). This is indicative of the growing recognition that VEO recruits carry out multiple (and changing) roles within the organisation and that issues pertaining to areas such as recruitment and selection are likely to be different between those who hold different types of roles (see Horgan et al., 2016; Hunter et al., 2017). Gill and Horgan (2013) highlighted a crucial question that needs to be addressed. The key question in VEO recruitment is not who becomes "a terrorist," but "who becomes a bombmaker as opposed to a gunman and so on" (p. 454). Being a bomb-maker may be different than being a bomb-planter. Therefore, one useful question might be is there anything that differentiates the bomb-planter from the individual who makes the bombs? (Gill & Corner, 2017) Other important questions include: Are there selection effects at play whereby recruiters place certain individuals in particular roles or is there any self-selection whereby potential recruits push for particular roles within the organization? What contribution, if any, does personality have in these dynamics? (Gill & Corner, 2017).

Hegghammer (2013) applied signalling theory (see Weinstein, 2005) in order to investigate recruiter tactics. He examined 260 Saudi Arabian members of al-Qaida in the early 2000s. In his investigation, Hegghammer also examined the Manchester Manual, an al-Qaida manual that detailed the qualities of an effective jihadi recruit. The Manchester Manual contains a list of 14 qualities that are considered desirable in a prospective jihadi member. Some of these qualities included: intelligence, truthfulness, ability to observe, ability to conceal oneself, maturity and willingness to sacrifice. It was suggested by Hegghammer that VEOs try to identify these characteristics using a wide range of techniques, tools and methods (Hunter et al., 2017). Additionally, declassified documents were recovered from the Abbottabad compound, which was the site occupied by former al-Qaida leader Osama Bin Laden. These documents revealed an application document that was remarkably similar to a traditional job application form (Shapiro, 2013). In the application document, the al-Qaida recruits are asked to provide basic information (e.g., their name, date of birth and names of family members). The potential recruit is also asked to give details of relevant experiences and expertise, hobbies, proficiency in foreign languages, nature of their travel history, previous occupations they have had, any relevant military experience they have and if they "wished to execute a suicide operation" (Hunter et al., 2017).

Lone-actor terrorism

There are numerous definitions for what classifies a lone-actor terrorist (Bouhana et al., 2018). The definition that is used in this chapter defines lone-actor terrorists based on three criteria:

1. a lone actor must operate as a single perpetrator in the execution of an attack;

2. a lone actor must have no direct affiliation with a terrorist group or organization;
3. a lone actor terrorist must not follow the direct commands or be under the direct influence of a leader or group.

(Malthaner et al., 2017)

It is important to point out that this definition of a lone-actor terrorist does not rule out those individuals who become radicalized in a group-context but move on to carry out terrorist violence alone for whatever reason (Lindekilde, O'Connor & Schuurman, 2019). Currently, the media is focused on foreign fighters and lone actors. However, these types of terrorists are a small minority when compared to terrorists worldwide and across history (Gill & Corner, 2017). Recently, the Western world has seen a rise in the prevalence of lone-actor terrorism that, in at least some cases, is matched with an increasing trend in the degree of lethality of the attacks (Hamm & Spaaij, 2017; Phillips, 2017). Despite not being as lethal as group-based terrorism (Spaaij, 2012), lone-actor violence (e.g., vehicle-borne or firearms attacks on soft targets) represents a serious threat against the Western world (Perry, Hasisi & Perry, 2018; Lindekilde, O'Connor & Schuurman, 2019).

The term "lone actors" rather than "lone wolves" is also used in this chapter as the term "lone wolves" implies a high level of cunning and lethality, features that are typically non-existent among such individuals (Schuurman et al., 2019). Thankfully, the majority of lone-actor terrorists are not the highly capable and secretive operatives the term "lone wolf" would appear to imply. Lone-actor terrorists tend to have little organizational resources and also tend to prefer relatively simple attacks. This means that, on average, their attacks are usually less lethal when compared to the attacks carried out by group terrorists (Spaaij, 2012; Smith et al., 2015). Lone-actor terrorism is not typically a spontaneous phenomenon but is the culmination in varying degrees of planning and preparation (Spaaij, 2010, 2012; Gill, Horgan & Deckert, 2014; Danzell & Montañez, 2016) – it can be days, months or even years, as was the case with Anders Breivik who prepared for his attack for a total of nine years. Due to their limited communication streams, it is widely believed that it is far more challenging to identify lone actors before they attack using traditional methods (e.g., surveillance) when compared to group-based plots (Michael, 2014; Perry, Hasisi & Perry, 2018; Parker, Pearce, Lindekilde & Rogers, 2019).

Many of the individuals we consider to be lone-actor terrorists are better understood as alone only with respect to the commission of the attack itself. For the majority of lone-actor terrorists, connections to others (whether it be in the offline or online domains) plays an important role in the adoption and maintenance of their motivation to carry out their attack (Lindekilde, O'Connor & Schuurman, 2019; Schuurman et al., 2018) and can exert substantial influence on the radicalization pathway (Malthaner & Waldmann, 2014; Malthaner & Lindekilde, 2017). Therefore, rather than being a different phenomenon entirely, the radicalization of the lone-actor terrorist is more effectively understood as being a variation of group-based radicalization. Therefore, the lone-actor concept (implicitly) overestimates

the level of isolation that the majority of these individuals actually experience (Schuurman et al., 2018). For example, Timothy McVeigh, who was responsible for the 1995 Oklahoma City bombing that resulted in the deaths of 168 people, got assistance from Terry Nichols with renting storage space and acquiring and making the explosives used for the attack (Patrick M. Ryan, "U.S. Plaintiff v.s. Timothy James McVeigh and Terry Lynn Nichols" (U.S. District Court for the Western District of Columbia, 1995)). Also, lone actors will very often seek some degree of legitimization for their decision to use extreme violence from those who they consider to be figures of authority. They may also gain the means or skills to carry out their attack from, sometimes, unwitting individuals (Gill, Horgan & Deckert, 2014; Schuurman et al., 2018).

Rates of mental disorders in lone actors to matched samples of group actors

Rather than looking at psychopathy or specific types of personality disorders (e.g., narcissistic personality disorder, antisocial personality disorder), some recent studies have investigated the full range of diagnostic mental disorders. There is an increasing recognition that radicalization and engagement in terrorism is a culmination of a number of risk factors. Rather than looking simply at the "causes" of terrorist engagement, it may prompt us to attempt to try and understand "the causes of the causes." As argued by Gill and Corner (2017), this is where an understanding of the contributory role of mental health disorder may become more useful when applied to specific subsets of terrorist behavior (Gill & Corner, 2017). This is a useful development. As Gill and Corner have emphasized, for too long, the terrorist psychology literature has not been able to progress due to the narrow, linear understandings that are predominantly interested in prediction and linear thinking. Many analyses exploring the association between terrorism and mental health disorders appear to ignore the fact that disorders vary greatly and instead treat them all as if they are similar. They argued that:

> The innovation is also important in terms of both early prevention and, if necessary, later risk assessment. By denying that mental health issues ever play a role, it casts aside a potential key partner in safeguarding people at risk of radicalization and those who need psychological support postdisengagement.
>
> *(Gill & Corner, 2017, p. 237)*

Gill and Corner (2017) identified four studies that they consider important to this field given the data they utilized, the spectrum of psychopathology included in the study and the inclusion of some form of comparison or control group. The first one was carried out by Corner and Gill (2015) and used a dataset comprising of 119 lone-actor terrorists and a matched sample of group-based terrorists. Findings from this study showed that the odds of a lone-actor terrorist having a mental health disorder is 13.49 times higher compared to the odds of a group actor having a mental

health disorder. Additional findings showed that, compared to lone actors without a history of mental health disorders, lone actors who had a mental health disorder were found to be 18.07 times more likely to have a spouse or partner who was involved in a wider movement. Furthermore, lone actors with a mental health disorder were also found to be more likely to have a proximate upcoming life change, more likely to have recently been a victim of prejudice and more likely to have experienced proximate and chronic stress. The only diagnostic group that was found to be significantly related to previous violence was the schizophrenia and associated disorders and this is consistent with the findings from previous studies (e.g., Krakowski, Volavka & Brizer, 1986; Shaw et al., 2006).

In the second study that was identified, Corner, Gill and Mason (2016) had a sample of 153 lone-actor terrorists and found the following: 1.3% experienced traumatic brain injury, 0.7% drug dependence, 8.5% schizophrenia, 0.7% schizoaffective disorder, 2.0% delusional disorder, 0.7% psychotic disorder, 7.2% depression, 3.9% bipolar disorder, 1.3% unspecified anxiety disorder, 0.7% dissociative disorder, 1.3% obsessive–compulsive disorder, 3.3% PTSD, 0.7% unspecified sleep disorder, 6.5% unspecified personality disorder and 3.3% autism spectrum disorder (ASD). Findings revealed that, in the lone-actor sample, three disorders were more prevalent when compared to the general population: schizophrenia, delusional disorder and autism spectrum disorders (ASDs). However, there were three disorders that were found to be not as prevalent in the lone-actor sample when compared to the general population: depression, sleep disorders and learning disabilities. (Note: information on this study was taken from the paper by Gill and Corner (2017), who are the same group of researchers).

In the third study, Weenink (2015) examined the police files and personal details of 140 Dutch individuals who became foreign fighters. They were all considered to have traveled from the Netherlands to Syria, or on whom police had information that they may have been preparing to do so. The overall finding was that 6% ($n = 8$) had diagnosed disorders, including: psychotic, narcissistic, attention-deficit/hyperactivity disorder (ADHD), attention deficit disorder (ADD), schizophrenia, autism spectrum and Post Traumatic Stress Disorder (PTSD). This finding suggests that mental health disorders (specifically, schizophrenia and psychosis) are more prevalent in jihadists when compared to the general population. Out of the sample of 140 Dutch individuals who became foreign fighters, three (2%) had diagnosed schizophrenia. The prevalence for schizophrenia in the general population according to the DSM-V is 0.3 to 0.7% (APA, 2013, p. 102). Two (1.4%) had a diagnosis of psychosis. The lifetime prevalence of psychosis is between 0.21 to 0.54% (APA, 2013, pp. 116–117). Weenick suggests that these findings are actually underestimating the true prevalence of behavioral and mental health problems. They provide some examples to explain why this may be the case. First, they did not have access to medical files; second, police sources are not always complete; and third, a mental health institution found that 60% of the radical Islamists that they had in their files had received psychiatric treatment (Weenick, 2015).

Lastly, in their study, Gottschalk and Gottschalk (2004) administered the Minnesota Multiphasic Personality Inventory-2 (which is a psychometric test of personality and psychopathology) to 90 Palestinian and Israeli Jewish terrorists currently incarcerated in Israeli jails or living in freedom) and compared them to two control groups, which comprised of 30 Palestinians and 31 Israeli Jews who are similar to the subjects in the first group on standard demographic variables. Findings showed that, on subscale measures of psychopathic deviate, paranoid, depressive, schizophrenic and hypomanic tendencies, the sample of terrorists scored higher. However, it is important to caution here that it cannot be known for certain if these higher scores on these subscale measures are a direct result of being involved in terrorism or if they are the result of being incarcerated. Moreover, the results cannot help us to understand the contribution that they had in the individual's decision to become involved in terrorism in the first place. Moreover, the sample sizes were relatively small, which limits the ability to generalize (Gottschalk & Gottschalk, 2004).

These four studies (Gottschalk & Gottschalk, 2004; Corner & Gill, 2015; Weenink, 2015; Corner, Gill & Mason, 2016) all indicate that investigating mental health disorder and terrorist involvement is not unnecessary. All of these studies included some form of comparison or control group to enable a base rate for comparison. The all showed evidence of differences. The findings from all four studies would suggest that there is a higher prevalence of mental health disorders (at about 40%) in lone actors when compared to both group-based terrorists and the general population (Corner, Gill & Mason, 2016). However, it must be stressed here that none of these studies are making the claim that mental health disorders are in any way predictive of terrorist engagement. They are also not suggesting that there exists a linear relationship between *specific* personality traits or mental health disorders and engagement in terrorism. Instead they view specific personality traits or specific mental health disorder as being just one factor amongst numerous others that typically "crystalize" within the individual (Gill & Corner, 2017).

There have been other studies that have been carried out that have not included a control group, but have compared different types of terrorists, for instance, that have provided the literature containing findings that are worth discussing here. Gruenewald and colleagues (2013) derived a sample of 139 fatal attacks that were perpetrated by far-right extremists between the years 1990 and 2010 in the United States. All of the cases were categorized into loner or small-cell and group-motivated attacks. This resulted in a group of 47 homicides that were perpetrated by loner far-rightists and a group of 92 homicides perpetrated by other far-rightists. Findings from this study revealed that 40.4% of the loners had a reported history of mental health disorders. For other far-rightists, a reported history of mental disorders was found in 7.6%, which is significantly lower than that found for the loners in this sample (Gruenewald, Chermak & Freilich, 2013).

In another study conducted by Merari and colleagues (2009a), a variety of psychological tests were carried out on a sample of would-be suicide bombers and they compared the results with those from a few different control groups (e.g., other terrorists and non-political criminals). Specifically, they studied three groups of jailed

Palestinian terrorists: a group of would-be suicide bombers ($n = 15$), a control group of terrorists arrested for participation in non-suicide missions ($n = 12$) and a group consisting of organizers of suicide operations ($n = 14$). The classification of personality styles was based on the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). The DSM-IV classifies personality disorders into three separate clusters (cluster A, cluster B and cluster C): cluster A refers to individuals who appear to others to be odd or eccentric (paranoid, schizoid, schizotypal); cluster B refers to individuals who appear to others to be overly emotional, unstable or self-dramatizing (antisocial, borderline, histrionic, narcissistic); cluster C refers to individuals who appear to others to be tense and anxiety ridden (avoidant, dependent, obsessive-compulsive). When comparisons were made between the suicide and the other two groups (i.e., the control and the organizers groups), a significant difference in personality styles was found. Findings also showed that the majority of the suicide group subjects were assessed as having characteristics of cluster C, most notably, avoidant and dependent styles. Whereas, the majority of the subjects in the control as well as the organizers group were assessed as having cluster B characteristics (i.e., impulsive and emotionally unstable style). In the suicide group, nine of the 13 subjects (69%) whose personality style was able to be classified were assessed as having dependent-avoidant personality styles. Whereas, only two subjects (20%) in the control group and only one subject (8.3%) in the organizers group were assessed as having dependent-avoidant personality styles. In the suicide group, four subjects (30.8%) were identified as having impulsive and emotionally unstable style compared to eight in the control group (80%) and 11 in the organizers group (91.7%). Interestingly, no subjects were classified under cluster A (bizarre characteristics). Also, no subjects were found to have any psychotic features. In the suicide bombers' group, six subjects (40%) were assessed as having suicidal tendencies while no participants were found to have suicidal tendencies in the control group or the organizers group. The study revealed a significant difference between the would-be suicide bombers and the control groups with regards to depressive tendencies. In the would-be suicide bombers' group, eight participants (53.3%) were identified as having apparent depressive tendencies compared to only one (8.3%) in the control group. Only three participants (21.4%) were identified as having depressive tendencies in the organizers group. The difference between this group and the would-be suicide bombers group fell short slightly of being statistically significant. The overall findings from this study would indicate there is no single personality profile of Palestinian would-be suicide bombers – which runs counter to the widespread belief that the majority of these individuals exhibit distinctive personality characteristics (Merari et al., 2009a).

This investigation of would-be suicide bombers conducted by Merari and colleagues (2009a) aimed to increase our understanding and knowledge of completed ("successful") suicides. One question that does remain is whether, and to what extent, the would-be suicide bombers investigated in the present study differ to those suicide bombers who successfully carried out their mission. As pointed out by Merari and colleagues (2009a) themselves, it may be that the personality traits between these two groups differ. The possibility of differences in personality traits

is worth investigating because certain traits may impact on one's level of determination to successfully carry out the martyrdom mission, or the individual's ability to carry out the mission without being apprehended.

In another study led by the same researcher, Merari and colleagues (2009b) investigated 15 Palestinian would-be suicides and 14 organizers of suicide attacks using semi-structured interviews. They were particularly interested in the self-reported feelings and behavior of the suicide bombers from recruitment to dispatching, in addition to the organizers' self-reported views and decisions regarding suicide attacks. This study revealed a number of interesting findings. For instance, the majority of the organizers said they would not recruit mentally unstable candidates, individuals who are suicidal, who want to die for personal reasons and criminals. The study found that only five of the 14 organizers reported that they would not consider recruiting a candidate who was hesitant. Whereas the majority of the organizers reported that they would not recruit a candidate who was suicidal, the psychological examination of the would-be suicides showed that 40% of the candidates who were tested exhibited some suicidal tendencies. Findings revealed that, in the majority of cases, these suicidal tendencies were sub-clinical (failed to reach clinical threshold) and the candidates themselves may not even be conscious of them. Suicidal ideation was clinically marked in at least two of the candidates. However, it is worth considering here that it may have been the case (at least in some cases) that even the potential recruits whose key motivation for undertaking the mission was their wish to die did not share this motivation with the organizers, for fear that the organizer would not recruit them into the organization (Merari et al., 2009b).

It is important to emphasise that lone-actor terrorists with mental health disorders can very often engage in rational and sophisticated pre-attack planning. This is supported by a number of recent studies. For instance, Gill, Horgan and Deckert (2014) showed that lone actors who are diagnosed with mental health disorders frequently exhibited rational motives and engaged in rational and purposive preattack behaviors (see also Fein & Vossekuil, 1999; Borum, 2013).

No mental health disorder appears to be a predictor of terrorist involvement

What many of the more recent studies show is that it is not the case that all terrorists have the same psychological profile – there is no common psychological profile of a terrorist. What the evidence does indicate is that some subgroups of terrorists may be more likely to have certain psychological traits compared to the general population. Also, some types of terrorists may be more likely to possess particular psychological traits compared to other types of terrorists (Gill & Corner, 2017). The relatively few studies carried out also indicate that those subsamples of terrorists where there are high rates of mental health disorders are still less than 50%. To date, there has been no study that has found that any mental health disorder is predictive of terrorist involvement. For a subgroup of terrorists, it is highly likely that the presence of mental health disorder(s) may be just one of the many "risk" factors that

pushed and pulled that individual and led them down the path to terrorist engagement (Gill, 2015; Gill & Corner, 2017).

Studies that are frequently cited as support for the lack of mental health disorders in terrorists may not necessarily be as robust or methodologically rigorous as some of the studies that have confirmed an association between mental health disorders and terrorism (Gill & Corner, 2017). Merari (2010) also made this point raised by Gill and Corner (2017) in the following excerpt:

> By and large, the opinion that terrorists do not have a common psychological profile rests on the absence of research rather than on direct findings. A scientifically sound conclusion that terrorists have no common personality traits must be based on many comparative studies of terrorists from different countries and functions, using standard psychological tests and clinical interviews. As such studies have not been published, the only scientifically sound conclusion for now is that we do not know whether terrorists share common traits, but we cannot be sure that such traits do not exist.
>
> *(Merari, 2010, pp. 253–254)*

Presence of mental disorders also may be a by-product of terrorist activity

It is also important to consider that the existence of mental health disorders may be a by-product of engaging in terrorist activity (and its associated risks) and/or subsequent disengagement from a terrorist organization or group (Weatherston & Moran, 2003). If the existence of mental health disorders are identified in a terrorist, it does not necessarily mean that this was a causal factor that pushed them into terrorist engagement and activity (Weatherston & Moran, 2003). The terrorist lifestyle would result in that individual's exposure to a variety of violent and traumatic events, which may lead to any number of mental health disorders. There have been a number of studies that have investigated the adverse mental health outcomes following engaging in war or being involved within a gang. Experience of conflict can result in posttraumatic stress disorder (PTSD) in some individuals (see Jordan et al., 1991). To date, the psychological consequences of engaging in terroristic violence is relatively unknown (Horgan, 2017; Gill & Corner, 2017). Lastly, in the majority of the studies to date, terrorists who have undergone psychiatric evaluation have done so within the context of incarceration. Therefore, it is uncertain whether the mental health issues they are exhibiting is due to their engagement with terrorism or whether it is due to their experiences of being arrested and incarcerated (Gill & Corner, 2017).

Two types of lone-actor terrorist: the disconnected–disordered and the caring-compelled

It has been suggested that there are two types of lone-actor terrorist, the disconnected–disordered and the caring-compelled (McCauley & Moskalenko, 2014,

2017). An individual with a disconnected-disordered profile has a grievance, is proficient with weapons and is socially disconnected and also stressed with a psychological disorder. This profile of terrorist is similar to that of the school shooters and assassins, who are also typically lone actors, in showing five common features, namely, a grievance, planful rather than impulsive attack, weak social ties ("loners"), mental health difficulties (most notably depression) and experience with weapons outside the military. A well-known example of this type is Theodore Kaczynski, otherwise known as the "Unabomber" (detailed case study of Kaczynski given later in this chapter) (McCauley & Moskalenko, 2014, 2017).

The caring-compelled profile refers to an individual who is normal, socially connected and even idealistic, who feels an atypically high level of sympathy for individuals who have been the victim of injustice. They feel a strong sense of personal moral obligation to bring justice to the perpetrators. An example of a caring-compelled type is the antiabortion terrorist Clayton Waagner. On two occasions he managed to get abortion facilities across the United States shut down with anthrax threats (McCauley & Moskalenko, 2011). Waagner was motivated to deliver these terroristic threats in a moment of strong emotion, which was when he held the small, fragile body of his stillborn granddaughter and began to think of all the similar small, fragile bodies that are lost to abortion. McCauley and Moskalenko (2014) suspect that the caring-compelled profile is not as common (giving the rarity of individuals with an excess of sympathy to this degree) as the disconnected-disordered profile. However, this needs empirical investigation to determine (McCauley & Moskalenko, 2014, 2017).

Violence as a means to significance

It is a well-established finding in the literature that violence is frequently carried out in an attempt to restore the individual's compromised significance. Based on a sample of ideological extremists in the United States, Jasko and colleagues found that individuals who had experienced abuse, social rejection or failure were more likely to resort to violence that was ideologically directed (Jasko, LaFree & Kruglanski, 2017). Moreover, studies investigating the motivational patterns of suicide attackers have shown that there is a correlation between the level of violence in an attack and indicators of the individual's motivation to gain significance (Webber et al., 2017; Kruglanski et al., 2017).

The role of social networks

The potentially significant role of the internet and social networks is important to consider (e.g., Oliphant, 2016; Kruglanski et al., 2017). For instance, Kruglanski and colleagues (2017) have noted that radical social networks can exert influence on an individual's intention to engage in violence by offering validation for the importance of the goal and providing some degree of confirmation that adopting a violent approach is an appropriate and justified way to pursue that goal. Studies

have also shown that, when a violent act is socially validated, individuals experience less guilt and distress compared to when it is questioned by important others (Webber et al., 2013). Furthermore, gaining significance and acceptance as well as belonging to a group may become an end in itself. This may subsequently lead to an increase in the individual's willingness to carry out sacrifices or violent acts for a collective cause (Willer, 2009). Swann and colleagues have also found that individuals are much more likely to adopt extreme pro-group behaviors when the group constitutes an important part of the individual's self-concept (e.g., Swann et al., 2010).

Validation of a justificatory narrative by a social network is not a requirement for all individuals who go on to perpetrate extreme acts of violence. Indeed, there are some individuals who have such a strong sense of their own epistemic authority that validation from others is unnecessary. They may also have such a strong sense of self that the approval of others is not needed. One example is Ted Kaczynski, also known as the "Unabomber," who was a loner who developed his justificatory narrative for violence by himself (FBI, 2008). Another example is Anders Breivik, the Norwegian who killed 77 people in Oslo and on the island of Utøya in 2011. Breivik appears to have no concrete network of social support and developed his own justificatory narrative for the attack (Knausgaard, 2016).

Case study –Theodore ('Ted') John Kaczynski

Theodore Kaczynski (also known as the "Unabomber," which was the Federal Bureau of Investigation's (FBI) shorthand for "UNiversity and Airline BOMBER") became known worldwide for a number of bombing attacks, which were all targeted at scientific universities, airlines and businesses because of their role in creating the over-industrialization of society and the destruction of nature. He was a lone-actor terrorist with a political agenda. He believed that people's freedom was being taken away because of industry and technology (Beardsley & Beech, 2013). Kaczynski carried out a "lethal campaign of terrorism," which he started on May 26, 1978, when his first bomb slightly injured a Northwestern University public-safety officer, Terry Marker, and ended on April 24, 1995, when his bomb killed the president of the California Forestry Association, Gilbert Murray. In total, he sent through the mail or hand delivered 16 package bombs to mainly scientists and academicians over the course of 17 years, which resulted in the deaths of three people and injuring of 23.

Kaczynski was an indiscriminate reader (reading books on a wide variety of topics, including criminology and fingerprinting) and prolific (although mainly unpublished) writer and correspondent. He would keep all notes in codes that an FBI cryptologist told Chase "no one, not even NASA computers, could have broken" (Chase, 2004, p. 41). The only reason the FBI were able to crack the code was because they found the key in Kaczynski's cabin. Kaczynski would take significant precautions while making his bombs and depositing them. When making his bombs, he would wear gloves and would soak each piece in soybean oil and salt

water to remove fingerprints. He would remove the covers off the batteries because the covers contained bar codes that could aid investigators in finding out where they were purchased. In order to avoid detection, rather than purchase the materials he needed for his bombs, he would collate the majority of materials (such as the pipes for his bombs) from abandoned cars and junkyards. Kaczynski would also disguise himself when traveling to plant or mail his bombs and when searching the scrapyards for useful materials for his bomb making. For instance, he would change the colour of his hair using dyes; regularly use different types of spectacles/glasses; change the shape of his face by inserting chewing gum under his lip or would put wax or Kleenex into his nostril and use different types of wigs and hats. He would sometimes make himself appear bigger than he was by wearing coats or jackets that were bulky underneath his raincoat. In another attempt to further mislead the authorities in their search for the "Unabomber," he used a pair of shoes that had the rubber soles of a much smaller shoe tied to the bottom. This would result in the authorities looking for someone who had a much smaller shoe size. He would purchase stamps from vending machines and would mail the package bombs from drop boxes that were some distance away from his cabin in Montana in order to reduce the chance that they could be traced back to him. His own journals also show that he would even plant false leads when making his bombs. He wrote:

> A while back I obtained two human hairs from the bathroom in the Missoula bus depot. I broke one of these hairs into two pieces, and I placed one piece between the layers of the electrical tape I used to wrap the wire joints inside the package.* The reason for this is to deceive the policemen, who will think that the hair belongs to whoever made the device.
>
> *(Chase, 2004, p. 42)*

*In his laboratory notebooks, Kaczynski included elaborate and detailed drawings alongside the text.

Early years and Ted's career

Theodore John Kaczynski was born in Chicago, Illinois on 5/22/42 to Theodore Richard Kaczynski and Teresa (Wanda) Dombeck Kaczynski, who were both children of Polish immigrants. He also has one brother, David Kaczynski, who is seven years younger. His father died on 10/2/90 following a self-inflicted gunshot wound to the head. Shortly before his death, his father had been diagnosed with lung cancer with metastasis to the spine (Johnson, 1998). Throughout his life, Kaczynski's interactions with his parents were generally hostile in nature. Kaczynski stated that as an adolescent he lived an isolated existence and he blamed his parents for his severe social impairments. He was considered to be gifted with a natural talent in the field of mathematics. When he was 16 years of age, he was accepted into Harvard University. While at Harvard, he made some acquaintances but they were superficial and short-lived and he did not develop any significant relationships

(Graysmith, 1997; Johnson, 1998; Silva, Ferrari & Leong, 2003). The Kaczynski family viewed higher education as being very important and they raised Kaczynski in an environment where intellectual life was valued very highly. He never made any close friends and "remained aloof and a loner" throughout his time in elementary school, despite all his parents' best efforts to get him involved in social activities with his peers (Ferguson, 1997, p. 2). Kaczynski also had an aversion to being touched and it has been tentatively suggested that he had this peculiar trait since he was a very young child (Graysmith, 1997; Silva, Ferrari & Leong, 2003).

Ever since he was a young child, Kaczynski had strongly identified with the Polish-born writer, Jozef Teodor Konrad Korzeniowski, who is more well known to English-speaking readers under the name of Joseph Conrad. As he got older, he developed a passionate attachment to the novels by this writer, in particular the novel entitled "The Secret Agent." He urged his brother and mother to read this novel and he claims he has read this book a dozen times. When you look at the topic of this book and the themes raised, it becomes unsurprising why Kaczynski was so attached to this novel. The novel is about terrorist revolutionaries who declare war on science. Kaczynski identified closely with the Professor in the novel. The author, Conrad, tells the reader in the novel that the Professor lived alone in a "cramped hermitage" which would be suited to "the perfect anarchist." Here he devoted all his time to creating "the perfect detonator" (p. 63, Chase, 2004). Kaczynski would adopt The Secret Agent as a virtual "Unabomber" manual (Chase, 2004, p. 211). Kaczynski's intense interest in making bombs stems right back to his childhood. He would use his bomb making skills to impress his peers (Silva, Ferrari & Leong, 2003).

In the fall of 1958, Kaczynski, at the age of just 16, entered Harvard University to study mathematics. At the age of 20, Kaczynski completed his undergraduate degree in mathematics and graduated in June 1962. In the fall of 1962, he started his first year of graduate study at the University of Michigan at Ann Arbor. By the age of 25, he had gained his Masters degree and Ph.D. (Doctor of Philosophy). He received a cash award from his department for his Ph.D. dissertation, which was titled, "Boundary Functions." The focus of his Ph.D. was on functions (which are mathematical entities that assign to each element of one set at least one element of the same or another set). Kaczynski was particularly fascinated with functions as they relate to circles. Despite the fact that his ideas had no obvious practical value, his papers were highly respected amongst professional mathematicians (Pickover, 1999). After his graduation, he accepted a position as assistant professor in the Math Department at the University of California at Berkeley. He was in this role between September 1967 to June 1969. He was viewed as being a poor teacher, which may have been due to the lack of empathy he showed towards his students. His colleagues at the University of California respected Kaczynski's academic work highly. A number of colleagues from the department he worked in at the university were shocked and puzzled when he said that he was going to resign from his position with no future career plans (Graysmith, 1997; Silva, Ferrari & Leong,, 2003). After he resigned from the university, he moved back home to live with his parents in

Lombard, Illinois. When he moved back home with his parents, he started his search for land where he could live isolated away from society. In 1969, while he looked for land to build his cabin, he got some temporary employment at warehouse jobs and factories.

After resigning from his job at the University of California at Berkeley, he spent about two years trying to find a piece of wilderness land where he could live, isolated from the rest of society. In 1971, he built a small cabin on a piece of land in Montana that he bought with his brother, David. The location of the cabin was about four miles outside of Lincoln. There was no plumbing in the cabin. He obtained his water supply from a creek, which was located close to the cabin. He also had no source of electricity in his cabin. In the early years of living in the cabin, he had a car and then, later, a pick-up truck for a short time. After that, he would just use a bicycle to get around or he would walk into town, where he could use public transport. His parents gave him a small stipend throughout this time, which he spent in relative isolation and he used the money he had originally earned while working at Berkeley and other jobs he would take on occasionally in order to support himself. After he became familiar with the routine of living in the cabin, he estimated that it typically cost him under $400 a year to live (Johnson, 1998). On April 3, 1996, Kaczynski was arrested in his cabin. When Kaczynski's cabin was searched, the authorities found a substantial hoard of parts for making bombs, 40,000 handwritten journal pages that contained details of the bomb-making experiments and descriptions of the crime committed by the "Unabomber" and one completed bomb, which was ready for mailing (FBI, 2008). Amongst all the journal entries, authorities found Kaczynski's 35,000-word manifesto titled "Industrial Society and Its Future" (Warren, 2017).

From 1971 until he was arrested in April 3, 1996, he had mainly been unemployed and living off the land, with only a small amount of financial support from his family. He worked very occasionally only to obtain needed money, which included masonry and grounds keeping jobs in the fall of 1972 and spring of 1973. He worked for a couple of months in 1978 and 1979 at a foam cutting company in Lombard, Illinois. Both his father and brother worked at this company. However, following inappropriate behavior towards the female manager, he was fired and then went to work, for a short amount of time, at the Prince Castle Restaurant Equipment Company (Johnson, 1998).

Experiment at Harvard: multiform assessments of personality development among gifted college men, 1941–65

Kaczynski wrote about his experiences while at Harvard University and his writings depict a very isolated existence with very little interactions with the other students there. It was only in his sophomore year that he developed some brief friendships. However, they were short-lived (Johnson, 1998). Between the fall of 1959 through to the spring of 1962, Harvard researchers, led by the prominent psychologist Henry A. Murray, carried out an ethically questionable experiment on 22

undergraduates. The overall experiment involved a series of three-year experiments titled "Multiform Assessments of Personality Development Among Gifted College Men" (Murray, 1963). Each of the 22 undergraduate participants were referred to using a code in order to ensure their anonymity. The code that was assigned to Kaczynski during this experiment was "Lawful" (Chase, 2004). The main purpose of the experiment was to further the understanding of personality using both standardized tests and projective measures with intensive study of social interaction, responses to stress and memory. In the field of psychology, a projective test is a personality test that is designed to allow an individual to respond to ambiguous stimuli, presumably revealing hidden emotions and internal conflicts projected by the person into the test. The experiment was also interested in investigating how individuals react under stress. The experiment consisted of five groups of around 20 men from each of the Harvard College classes of 1942, 1952, 1955, 1959 and 1962. The men all took part in intensive testing, which began when they were sophomores and continued through their senior years at the university. Over the course of the three-year experiment, each of the participants committed approximately 200 hours of their time to the project. The Murray Research Archive has retained all the documentation on all five groups of men who took part in this longitudinal and intensive research project. Life history data was also collated and this included lengthy, detailed autobiographies, statements of philosophical beliefs and values, college transcripts and personal interviews (Murray, 2010). Specifically, the participants were asked to write essays explaining their philosophies of life as well as autobiographies, in which they were instructed to respond to a number of specific, intimate questions on a broad range of topics including, for instance, thumb-sucking, toilet training, masturbation and erotic fantasies (Chase, 2004). They also completed a battery of tests, which included, for example, the Minnesota Personality Inventory; the California Psychological Inventory; a "fantasy inventory"; the Maudsley Personality Inventory; a psychological types inventory; a "philosophical outlook test"; a "temperament questionnaire" and a "word association test." It is important to stress here that these were only some of the many tests that the participants completed. Some of the projective measures used in the study included: Rorschach tests, drawings and responses to a number of Thematic Apperception Test (TAT) cues.

When the majority of this data had been gathered, the researchers then administered the stressful dyadic confrontation. This stressful dyadic confrontation involved Murray subjecting the men in his study to intensive interrogation. Murray himself referred to these intensive interrogations as being: "vehement, sweeping, and personally abusive" (Murray, 1963, p. 29) attacks. Specifically, he would attack their egos and also their ideals and beliefs (Chase, 2004, p. 18). Just before they engaged in this part of the experiment, they had been asked to write an autobiographical essay that provided details regarding their most cherished personal beliefs, aspirations and their deepest and innermost sexual desires. The information the subjects gave in this deeply personal autobiography was used by the researchers against them in the stressful dyadic confrontation. It is useful to provide more detail

of the environment where these interrogations took place and how the subjects were treated. Each of the subjects was interrogated individually in a room with a one-way mirror. They were strapped to a chair and electrodes attached to measure their physiological responses. Each of the participants were subjected to lengthy, "abusive harangues" by a law school student, not the lead researcher, Murray, himself. This student had been primed on what to say during the interrogation as they had been given an in-depth "psychological battle plan" by the lead researcher, Murray. They were deceived, ridiculed and humiliated and the whole episode was captured on film from behind the one-way mirror (Chase, 2000, "1959–1962: Harvard and the Making of the Unabomber").

Over the course of the next three years, each of the participants were asked to come back to take part in a number of "recall" interviews and sometimes had to relive their humiliation on film. When they relived the film of themselves being reduced to impotent anger by the law student under interrogation, they would be asked to provide comments. Murray would make the following types of comments when the subject was reliving their humiliation on film: "you will see yourself making numerous grimaces and gestures" and "uttering incongruent, disjunctive, and unfinished sentences" (Chase, 2004, p. 235). Feelings of anger, nihilism and alienation were reported by a number of the subjects who took part in Murray's study (Chase, 2004). Even 25 years later, Chase highlights that a number of the subjects are still haunted by the events. Chase studied the "Unabomber's" precepts and demonstrated how these were an extension of the educational experience he had when he was at Harvard. He argued that the combination of "brutal emasculation and ethical confusion" that Kaczynski was subjected to at Harvard (in the research project) would have had long-lasting effects. His disillusionment with the scientific method, coupled with the anger he had towards his parents, generated a "smoldering anger" in Kaczynski, which eventually led him down the path to violence (Chase, 2004). Yale University Professor Robert Levine, who is considered one of the world's leading experts on human subject experiments, suggested that "such an experiment would prove traumatic to a subject who went into it already psychologically unstable." Although he did caution that his area of expertise was in the field of internal medicine, not psychology. This view is also consistent with that of Paul Appelbaum, a Professor of Psychiatry at the University of Massachusetts, who made the following remarks: "Could such experiments have a negative effect on vulnerable persons?" he rhetorically asked. "Since many forms of psychological trauma can lead to symptoms at a later point … it is certainly not beyond the realm of possibility." Indeed, Murray's own analysis (information that was obtained from sources external to the Murray Center) confirmed that, compared to all the other subjects that took part in the three-year experiment, Kaczynski had been the most severely affected (Chase, pp. 287–288).

> Gradually, while he was immersed himself in his Harvard readings and in the Murray experiment, Kaczynski put together a theory to explain his unhappiness and anger: Technology and science were destroying liberty. The system,

> of which Harvard was a part, served technology, which in turn required conformism. By advertising, propaganda, and other psychological techniques, this system sought to transform people into automatons, to serve the machine.
>
> *(Chase, 2000, 2004, p. 293)*

During the course of Murray's experimentation, Kaczynski started to be concerned about the use of "mind control" by society. Within this context, Kaczynski's beliefs are not paranoid delusion(s). The university (as well as the psychiatric establishment) had been willing accomplices in an experiment that had treated its subjects cavalierly and as unwitting guinea pigs (Chase, 2004, p. 293).

Manifesto: "industrial society and its future"

> The Industrial Revolution and its consequences have been a disaster for the human race. They have greatly increased the life-expectancy of those of us who live in "advanced" countries, but they have destabilized society, have made life unfulfilling, have subjected human beings to indignities, have led to widespread psychological suffering.…
>
> *(Kaczynski, 1995, pp. 3)*

The above is a short excerpt from the beginning of the manifesto that was written by Kaczynski. On April 24, 1995, Kaczynski sent his manifesto to the *New York Times* and *Washington Post* together with a letter that demanded that these newspapers publish his manifesto or else he would continue with his bombing attacks. The Federal Bureau of Investigation (FBI) faced a difficult decision. They had to decide whether or not to appease the "Unabomber." What they did not want to do was risk boosting his ego by providing him a national platform for his cause. However, they were desperate for new leads. The investigation had been going on for 17 years and was one of the most costly cases in the history of the FBI. This was due to Kaczynski's ability to meticulously cover his tracks and plant false evidence in the bombs to mislead the investigators. Following significant debate, the *Washington Post* was given the go ahead to print the 35,000-word essay that Kaczynski entitled "Industrial Society and Its Future" and which the press dubbed "The Manifesto" on September 19, 1995. When printed, there was also an appeal for any tips. In his manifesto, Kaczynski raised the negative consequences of the industrial revolution, saying that it had separated humans from their natural environment. He called out for the inevitable revolution of the people against the technology that is taking over their lives. In this revolution, people would return to a primitive life again (Chase, 2004).

Fortunately, the decision to print the essay paid off. The manifesto was read by Kaczynski's brother and sister-in-law, David and Linda. David compared the manifesto with previous letters and works his brother had written and felt the similarities were uncanny. After much consideration, David decided to hire a private

investigator to gather evidence and compile a dossier that he then gave to the authorities in February 1996. Some of the investigators remained unconvinced that Kaczynski matched the profile of the "Unabomber." However, following their completion of the linguistic analysis on the writing samples, another team were convinced they had their suspect. For two months, the debate continued until the suspect's identity was leaked to the press. When this happened, the investigators rushed to execute a search warrant before the story hit the press, alerting Kaczynski that he had been identified as the "Unabomber." On April 3, 1996, when agents arrived at Kaczynski's cabin to arrest him, they found large quantities of bomb-making materials, thousands of journal pages pertaining to the bombings over the course of the previous 17 years and a fully assembled bomb that was ready to be delivered (Chase, 2004).

The manifesto was almost like a mirror where many individuals saw something about themselves they disliked. Americans, for over a generation, had experienced some degree of fear (or revulsion) of the very advances in science and technology that the "Unabomber" was now warning about in his manifesto. Science and technology such as: genetic engineering; pollution, pesticides and herbicides; brain-washing of children by educators and consumers by advertising; mind control, cars, SUVs, power plants and power lines, radioactive waste; big government, big business; computer threats to privacy; materialism, television, cities, suburbs, cell phones, ozone depletion, global warming and various other features of modern living are discussed throughout (Chase, 2004). Essentially, the manifesto encapsulated the "conventional wisdom of the entire country" (Chase, 2004, p. 89).

Comprehensive psychiatric evaluation carried out by Dr Sally Johnson

Dr Sally C. Johnson, a forensic psychiatrist, examined Kaczynski, at the order of the court. Dr Johnson, in her evaluation, described how it was the fusion of two streams of development that propelled Kaczynski to see violence as being his only option. One of these streams was personal and was created by the anger he had towards his family and those in high school and college who he felt had slighted or hurt him in some way (real or imagined slights). The other stream was created from his philosophical critique of society and its institutions and reflected the culture of despair that he experienced during his time at Harvard and later. The Murray experiment that he was a participant in at Harvard contained both psychological and philosophical elements and, therefore, it is most likely that this may have fed into both of these two streams (Chase, 2000). The creation of the "Unabomber" occurred when these two belief systems merged together. Dr Johnson believes that it was while he was at Harvard these two belief systems first surfaced and met. She wrote:

> During his college years he had fantasies of living a primitive life and fantasized himself as "an agitator, rousing mobs to frenzies of revolutionary violence."

> He claims that during that time he started to think about breaking away from normal society.
>
> *(Chase, 2004, p. 19).*

It was during his time at Harvard University that Kaczynski first encountered ideas relating to the evils of technology and he started to develop these ideas into his ideology of revolution. It was during his time studying at Harvard University that Kaczynski started to have fantasies of revenge and started to have dreams of escaping into the wilderness (Chase, 2004, p. 19). There is no substantive evidence that Kaczynski was ever involved in alcohol or engaged in any form of drug abuse or addiction (Johnson, 1998).

Some difficulties with sexual adjustment

Interestingly, it also appears that Kaczynski experienced difficulties with sexual adjustment. Such were these difficulties that he even sought psychiatric treatment in the hope of facilitating a sex change operation. This took place at the beginning of his fifth year of study when he was at the University of Michigan. Before seeking the psychiatric treatment, for several weeks he had been experiencing intense and persistent sexual excitement that involved fantasies of being a female. It was during this time that he became convinced that he needed to undergo sex change surgery. He set up an appointment at the Health Center at the University to discuss this issue. While he was in the waiting room of the Health Center waiting to be called, he developed feelings of anxiety and humiliation at the idea of talking about the issues he was having. When seen by the doctor, he reported having feelings of some depression and anxiety over the possibility that the deferment status would be dropped for students and teachers, and that he may be drafted into the military. He did not raise his concerns about what he had been experiencing and his thoughts about undergoing a sex change. He said that the psychiatrist considered his anxiety and depression as not particularly unusual. Kaczynski reported leaving the Health Center feeling rage, shame and humiliation regarding his attempt to seek evaluation. According to Kaczynski, this was a significant turning point in his life (Johnson, 1998). There is relatively little known of Kaczynski's psychosexual history during his later years. However, there is no indication that he developed any love or sexual relationships (Silva, Ferrari & Leong, 2003).

Provisional diagnosis of paranoid schizophrenia

Based on the *Diagnostic and Statistical Manual of Mental Disorders*, 4th Edition (DSM-IV), Dr Johnson gave Kaczynski a "provisional" diagnosis of paranoid schizophrenia (with episodic and inter-episodic symptoms). However, she notes that he was not exhibiting any overt, significant features of this disorder while she was evaluating him. Kaczynski himself strongly argued that he had never had any experiences of thought insertion, thought broadcasting, mind control or command hallucinations.

Although he did admit to having a variety of fantasies and nightmares. Through the evaluation that Dr Johnson conducted with Kaczynski, it is uncertain whether Kaczynski was accurate in his report that these fantasies and nightmares only took place while he was asleep. In his writings, Kaczynski makes reference to his ability to use his will to control the outcomes of these experiences. This raises some doubt as to whether what Kaczynski is experiencing are dreams and fantasies as opposed to hallucinatory experiences (Johnson, 1998). [However, it is possible that what he was describing here was lucid dreaming – Author's suggestion]. Disappointingly, limited testing data was made available from Harvard University, where Kaczynski had been a participant in the study led by Dr Murray for Johnson to review (see earlier section for more detail on this experiment: "Experiment at Harvard: Multiform Assessments of Personality Development Among Gifted College Men, 1941–1965" – see Murray, 2010). However, the Minnesota Multiphasic Personality Inventory profile was available to review (although the Si scale, introversion, had not been scored). A copy of the original answer sheet was provided, which enabled the scale to be scored. The profile revealed a marked elevation on the introversion scale and a lesser elevation on the depression scale (Johnson, 1998).

The evaluation also revealed that Kaczynski is extremely sensitive to even minor criticism. He frequently perceives criticism (minor or otherwise) or the absence of a positive response as being a deliberate attempt from that person to humiliate or harass him. He seeks support and interaction in ways that are ineffective and appears to be impaired in his ability to identify common social cues within the environment. He perceives incidents that occur in the environment that involve noise or human activity to be personally directed and he responds with extreme rage and a wish for revenge. He also describes occasions of what may be ideas of reference. For instance, he describes his belief that people who are talking with each other some distance away from him are talking about him in a negative way and that they are negatively impacting on his well-being in a destructive or hostile way (Johnson, 1998).

Arguments against the provisional diagnosis of paranoid schizophrenia

The report that was produced by psychiatrist Dr Sally Johnson, who evaluated Kaczynski for a court-ordered pretrial competency to stand trial evaluation, was examined by Silva and colleagues (2003) in their diagnostic inquiry. Silva and colleagues highlighted that Dr Johnson did not have anything in her report that indicated the existence or endorsement by Kaczynski of hallucinations, disorganized speech, grossly disorganized or catatonic behavior, or negative symptoms. The absence of these symptoms would not support the argument for the diagnosis of paranoid schizophrenia that she detailed in her report to the court. The psychological assessment that Dr Johnson carried out during her evaluation of Kaczynski was not consistent with the notion that he was experiencing any overt disorganization or psychotic symptomology. However, she concluded that he was

experiencing "residual" delusional ideas and reported that he displayed "many" symptoms and signs that are characteristic of schizophrenia. Although Dr Johnson made a provisional diagnosis of paranoid schizophrenia, in her report the discussion of characteristic symptoms that she identified stated that they were, in her clinical opinion, consistent with this diagnostic conclusion. This finding was predominantly based on her view that Kaczynski was experiencing paranoid delusional thinking. Her report makes no indication that these delusions that Kaczynski was experiencing were bizarre. Based on her report, it appears that she focused on the presence of non-bizarre paranoid delusions as a "qualifying symptom" characteristic of paranoid schizophrenia (Silva, Ferrari & Leong, 2003).

However, the features or symptoms that Dr Johnson referred to in her report that Kaczynski was experiencing would not be sufficient to fulfill the criteria for a *Diagnostic and Statistical Manual of Mental Disorders*, 4th Edition (DSM-IV, 2013) diagnosis of paranoid schizophrenia, even a provisional one (American Psychiatric Association, 1994, p. 285). Exploring whether Kaczynski experienced any form of delusion thinking is very important, particularly given that Dr Johnson provided little explicit diagnostic information to support her diagnostic conclusion. However, the majority of Dr Johnson's inferences about paranoid delusional thinking was based entirely on her assumption that Kaczynski was experiencing delusional thinking whereby he was being controlled by modern technology. Importantly, there was no reference made to how Kaczynski's beliefs about being controlled by technology compares to individuals who are non-delusional that share the same strong or overvalued beliefs. Similarly, the strong belief that he had that his impaired ability to develop and maintain interpersonal relationships was a direct result of his parental verbal abuse during his childhood is not conclusive evidence of delusional thinking – although it is possible that such ideas are the result of cognitive distortions of a non-psychotic nature. For example, there are many instances where an individual has reconstructed their life histories as a result of information that is not well recalled, is fragmented or invented. Given this, Silva and colleagues were in agreement to some degree with the following statement from Michael Mello, that:

> Despite the abundance of irrelevant, superficial and salacious detail that she managed to pack into the forty seven page report, her provisional diagnosis of paranoid schizophrenia rests on only two dubious presuppositions. The first is that Kaczynski's politics were a delusion rather than a philosophy, and that his decision in the early 1970s to return to nature indicated mental illness. The second was Kaczynski's feeling that his parents were responsible for his discontent and unhappiness as an adult – a commonplace idea that is discussed every day with countless psychiatrists across America.
>
> *(Mello, 1999, p. 11)*

While Silva and colleagues were in agreement with Mello's theory that Kaczynski did not experience delusional thinking based on the report by Dr Johnson, it does

not necessarily follow that he did not have any other type of severe mental health disorder. One of the most arguably persuasive examples that Dr Johnson includes in her report, which is consistent with a psychotic process, is the possible presence of ideas of reference. She noted that Kaczynski at certain times held the belief that people who are some distance from him are talking about him in a negative way and that they are impacting on his well-being in a negative and destructive way (Johnson, 1998).

One of the most prolific writers on the Kaczynski case is Michael Mello. He also came to the same conclusion, namely, that the evidence that Kaczynski had schizophrenia is not persuasive. Mello argues that there was significant motivation for Kaczynski's attorneys and others to have him labeled as seriously mentally ill, which would offer a measure of meaning with regards to his unusual acts of violence (Mello, 1999a). Other mental health professions evaluated the case of Kaczynski and reviewed relevant records about his psychiatric status. They were asked by the defense to provide their psychiatric assessment of Kaczynski. They also gave diagnostic impressions that were consistent with a psychotic disorder (Froming, 1997; Amador, 1997; Foster, 1997; Amador & Paul-Odouard, 2000). Mental health professionals hired by the prosecution and others have questioned this diagnostic conclusion (Mello, 1999; Anonymous: Unabomber case experts discuss issues in diagnosing, evaluating Theodore Kaczynski; Silva, Ferrari & Leong, 2003).

In summary, there appears to be insufficient evidence supporting the view that Kaczynski ever experienced a psychotic disorder in the past or while he was under clinical evaluation. Silva and colleagues argue that, at best, an argument can be put forward that Kaczynski may at some stage have experienced a psychotic disorder associated with just one symptom of psychosis, that of delusional thinking. This indicates that a DMS-IV delusional disorder may have possibly been present in Kaczynski's case (American Psychiatric Association, 1994, 2000). However, the vast majority of the features or symptoms exhibited by Kaczynski are not consistent with a diagnosis of delusional disorder (Johnson, 1998; American Psychiatric Association, 2000). Neither Dr Johnson, nor anyone else known to Silva and colleagues, have ever made the assertation that Kaczynski may have a DSM-IV delusional (paranoid) disorder (Douglas & Olshaker, 1996; Amador & Paul-Odouard, 2000; Johnson, 1998; Froming, 1997; Foster, 1997; see Silva, Ferrari & Leong, 2003).

The role of autism spectrum psychopathology in the behavior of Kaczynski

Silva and colleagues (2003) have put forward the argument that Kaczynski's serial killing behavior was intrinsically related with autism spectrum psychopathology. According to them, available information would suggest that Kaczynski had a diagnosis of Asperger's Disorder and autism spectrum disorder (ASD. ASD is a neurodevelopmental condition characterized by social communication and social interaction difficulties and restricted, repetitive behaviors or interests (RRBIs)

(American Psychiatric Association, 2013). It is worth highlighting here that RRBIs characterise behaviors that can include repetitive motor movements, sensory reactions, rituals, routines and restricted interests. Kaczynski has been described as someone who, in between his dramatic expressions of hostility and anger, exhibited a limited range of facial emotion and bodily postures. He would also consistently avoid and discourage social interaction (Douglas & Olshaker, 1996; Graysmith, 1997; Silva, Ferrari & Leong, 2003).

Kaczynski exhibited severe impairments in developing the usual interactions and relationship with other people. He had difficulties participating in the give and take nature of meaningful and adaptive human interaction (also referred to as social reciprocity). Psychiatrist Dr Sally Johnson reported that he had once planned to mutilate the face of a woman who he alleged had degraded him by not showing any interested in developing a romantic relationship with him (Johnson, 1998). Another example of Kaczynski's difficulties with socially appropriate interpersonal behavior is in the case of Dr Carolyn Goren, an internist and cardiologist who, on a few occasions medically evaluated Kaczynski, received a letter from him in 1991 that invited her to dinner. These are just some examples highlighting Kaczynski's apparent impaired social judgement when approaching women. He clearly demonstrated an impaired ability to understand what was considered socially appropriate interpersonal behavior or have the ability to develop and maintain interpersonal relationships (Silva, Ferrari & Leong, 2003). These are also features or symptomology that you would typically see in someone with a diagnosis of Asperger's Syndrome.

Kaczynski never sought any formal psychiatric treatment. However, it is well noted that he was not just aware but painfully aware of his difficulties in being able to interact with other people. This difficulty was something he had been aware of since childhood. However, he blamed his social deficits entirely on what he perceived was his inadequate parental upbringing as opposed to being due to any other factors (Graysmith, 1997). By assigning blame to his parents, he avoided taking any responsibility for his acts of violence (Silva, Ferrari & Leong. 2003). He was also markedly hindered by his intolerance of the views of others that were different to those he had. He had great difficulty in showing any genuine interest in the activities or interests that other people had that were new to him (Silva, Ferrari & Leong, 2003). His intense preoccupation regarding the evils of technology on society is also indicative of his abnormally focused and intense stereotyped and restricted patterns of interest. His approach to bomb making was similar – he was abnormally focused and intensely preoccupied by it. His interest in bomb making stemmed from childhood and his novel and unique methods of making bombs would also be consistent with hyper-focused preoccupations and abnormally intense stereotyped and restricted patterns of interest, which are features characteristic of individuals with ASD (Douglas & Olshaker, 1996). Based on all of the information that was available to them, Silva and colleagues (2003) used the Autistic Spectrum Quotient (AQ), which is a self-rating instrument developed by Baron-Cohen and his colleagues, to assist with screening for autism spectrum psychopathology. On the resulting AQ, Kaczynski was rated by Silva with a score of 40. This score is

highly indicative of an autism spectrum disorder (ASD). All information regarding his hyper-focused interests were collected in line with the Cambridge University Obsessions Questionnaire (Baron-Cohen & Wheelwright, 1999), which indicated nine "obsessional" areas. This is a finding that would support the high tendency to develop hyper-focused interests, which is typically found in individuals with ASD (Silva, Ferrari & Leong, 2003). There are an increasing number of studies that have found a number of cerebellar abnormalities in ASD such as developmental macrencephaly and increased cerebellar white matter (e.g., Piven et al., 1997; Bailey et al., 1998; Courchesne et al., 2001; Fatemi, 2016). However, in individuals with Asperger's Disorder, these abnormalities may not be as pronounced (Lincoln et al., 1998). The neuropsychological testing (which was carried out by Karen Bronk Froming, Ph.D., a clinical psychologist) in the case of Kaczynski indicated that he had mild deficits in cerebellar motor functions (Silva, Ferrari & Leong, 2003).

It has been argued by Silva and colleagues (2003) that an important role for Asperger's Disorder psychopathology is to "serve as a psychological receptacle where psychopathic, sexual and violent propensities within an individual are given relatively free reign to develop without the modulating influences of the social environment. One of these factors is psychopathy, a complex set of thoughts and behaviours of sufficient stability throughout a lifetime to qualify as personality traits" (Silva, Ferrari & Leong, 2003, p. 29). It is important to consider psychopathy traits in relation to the case of Kaczynski. There is substantial empirical support for psychopathy being a psychological construct. There is also a wealth of studies that highlight the association between psychopathy and violent behavior (Hare, 1994; Hare, 1991). The revised version of the Hare Psychopathy Checklist (PCL-R) was used in order to evaluate Kaczynski's psychopathic characteristics. This was completed using the database that was accessible to the researchers, Silva and colleagues, from the public domain (Hare, 1991; Hart, Hare & Forth, 1994). Silva and colleagues do acknowledge that their rating of the PCL-R in the case of Kaczynski has to be interpreted with some degree of caution as they did not interview him themselves when completing this assessment. However, Silva and colleagues state that the relevant knowledge base that was available to them in the published literature is at least comparable to the typical quantity of clinical and legal information that is required for scoring the PCL-R. He scored 19 on the PCL-R, which would suggest that he exhibited a notable degree of psychopathic traits. However, it was not a high enough score for him to be categorized as a psychopath (Hare, 1991). Silva and colleagues (2003) also found evidence that indicated that Kaczynski also had antisocial personality pathology (Hare, 1991). In adulthood, he failed to conform to social norms (e.g., repeatedly making and detonating bombs causing injury and death, destruction of property and making terrorist threats – all of which are arrestable offences). He was also deceitful. For instance, he would repeatedly lie, or deceive other people in order to pursue his illicit making and detonation of bombs, something that gave him pleasure and satisfaction. Kaczynski also exhibited a lack of remorse and displayed indifference to the harm he had caused others. In his manifesto, he stated that it was his intention to injure or kill others and

advocated an anti-technology philosophy as a rationalisation for his acts (Kaczynski, 1995; Silva, Ferrari & Leong, 2003).

Sensory hypersensitivities are also commonly reported in individuals with ASD. This can be in any modality, smell, touch, sound, etc. Silva and colleagues (2003) point out that there is evidence that suggest that Kaczynski disliked loud noises and would be distressed by it. In fact, Kaczynski wrote about his dislike of noises in his manifesto (Kaczynski, 1995, p. 7).

It is perhaps useful at this point to highlight the literature that has suggested that the relationship between schizophrenia and other psychotic disorders and ASD is complex and studies have suggested that there may be a substantial degree of overlap between the two disorders (Kurita, 1999; King & Lord, 2011). Kincaid, Doris, Shannon and Mulholland (2017) have highlighted that there is mounting evidence supporting a symptomatic overlap in addition to a clinically significant rate of comorbidity between ASD and psychotic disorders such as schizophrenia (Solomon et al., 2011; Vannucchi et al., 2013). However, the exact nature of the association between the two disorders remains unknown. ASD and psychosis both share common neurobiology (Sporn et al., 2004). Furthermore, it has been postulated that it may be the negative symptoms in psychosis that are the common ground between these two disorders (Eussen et al., 2015). Surprisingly, there are also those who argue that the diagnostic distinction may be due to the experience, preference and expertise of the clinician who happens to be diagnosing (Bejerot, 2007; Nylander, Lugnegard & Hallerback, 2008). A review conducted by Kincaid, Doris, Shannon and Mulholland (2017) investigated all studies that had studied the prevalence rates of "Autistic like Traits" (ALTs) and ASD in individuals with a diagnosis of schizophrenia or other psychotic disorder. In their review, the researchers identified seven studies that met the criteria for inclusion in their review (Chang et al., 2003; Mandell et al., 2012; Hallerback, Lugnegård & Gillberg, 2012; Fraser et al., 2012; Waris et al., 2013; Davidson et al., 2014; Matsuo et al., 2015). The review found that the point prevalence rates for ALTs ranged from 9.6% to as much as 61%. Perhaps even more interestingly, across the outpatient and inpatient populations, the prevalence rates for diagnosed cases of ASD was anywhere from less than 1% to as much as 52%. Although there were differences in methodology across the studies that were identified, the overall findings would indicate that there is a much higher prevalence of ALTs and ASD in psychosis populations compared to that found in the general population (Kincaid et al., 2017). Kincaid and colleagues (2017) highlighted that, despite a small number of studies suggesting a high degree of comorbidity between schizophrenia and ASD, there has been relatively little systematic research investigating this association (del Real et al., 2010; Davidson et al., 2014; Chisholm et al., 2015).

Sentencing

During Kaczynski's trial, his defense attorneys recommended that he undergo psychiatric evaluation. However, Kaczynski refused. His defense attorneys struggled to

understand and explain why their client was refusing to undergo evaluation. Initially, the defense made the argument that Kaczynski's phobia of psychiatrists was the reason behind why he was not complying. Dr Vernon Foster, the defense expert, made the following declaration to the court:

> An essential component of Mr. Kaczynski's brain disorder is his deeply ingrained fear of being considered mentally ill.… In Mr. Kaczynski's perception, psychiatrists seek to eliminate free will and personal autonomy by creating a population that is wholly compliant with the needs of an omnipotent system. A significant feature of Mr. Kaczynski's illness is his pathological fear and compulsive aversion to evaluation by psychiatrists.

Following this, the prosecution set out to identify any evidence that showed that Kaczynski had previously consulted with psychiatrists or psychologists. They did find evidence that he had consulted with psychiatrists in the past, specifically regarding issues of insomnia and interpersonal relationships with women. This led them to conclude that the "phobia" was simply an attempt to manipulate the court as the defendant was clearly not afraid of mental health professionals as indicated by letters he had sent to a number of doctors and therapists over the years (Amador & Paul-Odouard, 2000).

According to court documents, the judge in the Kaczynski case was considering granting the prosecution the sanctions requested. This would mean that Kaczynski's attorneys would be unable to enter, at any point throughout the trial, any expert testimony on the defendant's mental health disorder(s). The defense team were in a difficult position. They were trying to argue that Kaczynski was terrified of psychiatrists, yet there was substantial evidence refuting this argument.

At this point, psychologist Xavier Amador contacted Kaczynski's defense attorneys to inform them of research that they may not be aware of which was potentially relevant to their client's resistance to be evaluated (see Amador & Paul-Odouard, 2000), namely, that he had anosognosia, which meant that he had limited insight into his psychiatric difficulties. Following this new information, Kaczynski's defense attorneys changed their argument. They now made the argument that it was his mental defect that was causing him to disobey the Judge's order as opposed to being a phobia. It appeared that the Judge was persuaded and was considering allowing mental illness evidence when Kaczynski threw the court proceedings into chaos again. When he found out that his lawyers were arguing vehemently for the right to put on an insanity defense, Kaczynski immediately moved to have them fired. Under no circumstances did he want to be portrayed as being insane (Amador & Paul-Odouard, 2000).

On January 8, 1998, having been unable to dissuade his attorneys from their intention of arguing for an insanity defense and also having failed to persuade the presiding judge, Garland E. Burrell, Jr., to grant him permission to select a new attorney, Kaczynski asked the court for permission to defend himself. In response to this request from Kaczynski, Burrell ordered Dr Sally Johnson to examine

Kaczynski in order to ascertain if he was competent to stand trial and direct his own defense. Johnson interviewed Kaczynski and read his writings for 10 days (Chase, 2004). Dr Johnson offered a "provisional" diagnosis of paranoid schizophrenia, but concluded on January 19 that Kaczynski was competent to represent himself. On January 7, 1998, Judge Burrell even made the following statement:

> I find him to be lucid, calm. He presents himself in an intelligent manner. In my opinion, he has a keen understanding of the issues. He has already seemed focused on the issues in his contact with me. His mannerisms and his eye contact have been appropriate. I know there's a conflict in the medical evidence as to whether his conduct, at least in the past, has been controlled by any or some mental ailment, but I've seen nothing during my contact with him that appears to be a manifestation of any such ailment. If anything is present, I cannot detect it.

The trial was resumed on January 22, only three days after Dr Johnson had given her report to Burrell. Burrell denied Kaczynski's request for self-representation. The decision made by the judge was viewed as being "bizarre" by Michael Mello, a law professor and an informal advisor to the Kaczynski defense. Dr Johnson's confirmation of Kaczynski's competency should have made Judge Burrell's decision on Kaczynski's petition for self-representation a straight-forward one. Mello argues that the law is clear on this issue: any defendant who is considered mentally competent has a constitutional right to represent themselves at trial, so long as they are cautioned on all the potential risks this strategy may incur (Chase, 2004). Kaczynski felt cornered and made the statement on January 26 that the ruling "put me in such a position that I had only one way left to prevent my attorneys from using false information to represent me to the world as insane" (Chase, 2004, p. 149).

Kaczynski had wanted a trial where he could showcase his ideology of revolution. However, when he was faced with the humiliating prospect of his attorneys portraying him as insane and his philosophies/ideologies simply the ravings of a madman in court, he stopped resisting. In exchange for the government's agreement not to seek the death penalty, he formally pleaded guilty to 13 federal bombing offenses that had resulted in the deaths of three people and seriously injured two others and, according to the government's Sentencing Memorandum, "acknowledged responsibility" for all of the 16 bombings that took place between 1978 and 1995. In exchange for pleading guilty, he was sentenced to six consecutive life terms in prison. The maximum-security federal prison where Kaczynski was confined was the same one that housed terrorist Timothy McVeigh, who bombed the federal building in Oklahoma City, Oklahoma, in 1995 and later was executed (Johnson, 2003). On May 4, 1998, Kaczynski was given a sentence of life imprisonment with no possibility of parole. Kaczynski, while acting as his own counsel at this point, then petitioned the Ninth Federal Circuit Court to grant him a new trial. This was declined by the judges. He then appealed to the Supreme Court who, in March 2002, declined to hear his case (Chase, 2004, p. 22). Lastly, Mello has stressed

that what happened between Kaczynski and his lawyers raises important questions relating to foundational issues of law, ethics and public policy (Mello, 1999b).

Lastly, it is useful to note that, if Kaczynski's wishes had been obeyed and he did not undergo any psychiatric evaluation/assessment, then it would have been impossible to present a mental status defense and it would have been similarly impossible ever to determine whether or not he was competent to make that decision in the first instance (Newman, 1999).

Case study – Anders Behring Breivik

On 22 July 2011, Norwegian Anders Behring Breivik killed 77 people during two well-planned attacks. The first being the bombing of government buildings in Oslo and the second being the shooting spree on the island of Utøya. On August 24, 2012, Breivik was sentenced to 21 years in prison. Despite prosecutors' arguments that Breivik was insane, he was found guilty by the court and he was sentenced to the maximum possible time in prison under Norwegian law, 21 years (Lewis & Lyall, 2012). Breivik had considered a number of targets, including the assassination of a member of the Norwegian government. In the end, he decided against this course of action because such individuals are typically well protected, which would present a challenge. Breivik argued that he had to go further down his list of what he considered to be acceptable targets for his attack. He considered Utøya Island to be an ideal target, from an operational perspective, due to it being so "isolated" and the difficulty the police would have trying to access the island (Gill, Marchment, Corner & Bouhana, 2018). The attacks had all the hallmarks of being well planned and executed. Indeed, Breivik wrote that he began to formulate his plan of attack about nine years prior to executing his attacks on that fateful day (Pantucci, 2011).

When Breivik arrived on Utøya Island, where the aspirant politicians were staying, he, dressed as a policeman, claimed he was going to talk to everyone following the bombing in Oslo. When he had gathered a number of people around him, he opened fire. Breivik then systematically and ruthlessly hunted and killed youths over the island (where there were 564 people at that time) for a total of 75 minutes. His aim was to shoot as many youths as possible, so that the others were forced to go into the water (the landside is approximately 600 meters away from the island). The cold water would then serve as a weapon of mass destruction as he believed that they would all drown. However, what Breivik did not anticipate was the large number of locals and tourists who rescued the youths who were in the water using their small boats, thus thwarting his intention of making the cold water a weapon of mass destruction (Hemmingby & Bjørgo, 2015). Based on the accounts of eyewitnesses, Breivik calmly walked around the island shooting at people who were running away. He also calmly walked around methodically shooting at bodies lying on the ground, suspecting, unfortunately correctly in many cases, that some of them were pretending to be dead in order to try and avoid being shot (Pantucci, 2011).

The two attacks that Breivik carried out within hours of each other fit into two categories of mass murder. His bombing attack in Oslo falls into the category of a "hit and run" attack, whereas the Utøya attack would fall into the category of the "pseudocommando" (Dietz, 1986). Dietz describes individuals who are "pseudocommandos" as being "collectors of injustice." Such individuals hold on to real or perceived insults, accumulating "evidence" that they have been grossly mistreated (see O'Toole, 2014). In order to maintain the revenge "romance," they need to gather the unwanted, hated or feared aspects that they have of themselves. This collection is then reassembled into the form of an "enemy" who "deserves" to be the target of their extreme rage and violence. This type of mass murderer has also been preoccupied with paramilitary themes and firearms. Such individuals typically choose to carry out their attacks in broad daylight while well-armed and make no plans to evade being captured (Leonard, Annas, Knoll & Tørrissen, 2014). There is also some indication that he tried to lace his bullets with nicotine poison (it is unknown what effect this had). Breivik was extremely careful not to raise security officials concerns when purchasing the weapons and ingredients he needed to make the bomb during his preparations for the attacks. In March 2011, "red flags" were raised following a chemical purchase he made from Poland. However, the head of the Norwegian intelligence service said there was an insufficient amount of evidence to warrant further investigation at the time. Breivik had also attempted to purchase weaponry during a visit to Prague. This proved to be unsuccessful and led him to purchase weaponry through legitimate routes in Norway instead (Pantucci, 2011).

Breivik was well-prepared for the attack. However, all his years of preparation did not prepare him for some of the decisions he faced during the attack. One of the main reasons for him being ill-prepared on some occasions was due to poor information-gathering when preparing for the attack. This was particularly the case when it came to the age of the people on the island that he attacked. Breivik had anticipated only encountering individuals with an average age of 22–23 years. He had not expected there to be children and adolescents on the island and he had to make a quick decision about whether they should live or die (Police Interview 8.3.1: NTB court transcripts 23.4.2012). When in doubt, he shot and killed. However, there were some exceptions to this. On one occasion during his attack on the island, he encountered a boy who was only nine year of age. He spared this boy's life. On another occasion, he encountered "a conservative looking" young man who he also spared because he appeared out of place and his appearance reminded Breivik of himself. He also did not shoot at the ferry crew that transported him to the island. Given that Breivik did not want to kill police, he did not shoot at the helicopter which he thought was the police. The reason he did not wish to kill police was because he regarded them as being his potential allies in a "futuristic perspective" (Hemmingby & Bjørgo, 2015). Breivik has admitted that he was appalled by his actions, but maintained that they were nevertheless "necessary" (Pantucci, 2011).

Background

Anders Behring Breivik was born in Oslo on February 13, 1979. His mother, Wenche Behring (1946–2013), was a nurse and his father, Jens David Breivik (born in 1935), was a civil economist, who worked as a diplomat for the Norwegian Embassy in London and later worked in Paris. Both of his parents had children from previous relationships. Breivik lived in London for the first year of his life, up until the divorce of his parents in 1980. His father tried to get custody of Breivik, but was unsuccessful. After his parents' divorce, Breivik lived with his mother and his half-sister in west Oslo and had very little contact with his father outside of visits during the holidays. Breivik's mother contacted the Child Welfare Services two times for help because he was a difficult child. Breivik went to the Child Psychiatric Services in 1983 and was assessed. They considered his rearing situation as being so problematic that he was very vulnerable to developing more severe psychopathology and their recommendation was that Breivik should enter foster care. However, the Child Welfare Services decided against foster care. Following home supervision for a brief duration, the case was closed in 1984 (Melle, 2013). Breivik and his mother spent a number of weeks at the Norway's Centre for Child and Youth Psychiatry (SSBU) when Breivik was just four years old. During this time, psychologists carried out a number of psychological examinations of Breivik. The psychologists' reports following the assessment stated that they were concerned about his mental health and made the recommendation that Breivik be removed from parental care. One of the reports produced by the psychologists referred to Breivik's peculiar smile, which they considered was not based on (or a reflection of) his emotions but rather was a conscious and deliberate response to the environment or context surrounding him (Seierstad, 2013). It was this peculiar smile that the world would see frequently throughout his trial (Syse, 2014).

Breivik attended schools in his affluent local area. At school, he was part of a group who would later describe him during this time as both sociable and loyal, but a bit shy. When he was a teenager, his physical appearance was a significant preoccupation for him, he would work out regularly, took anabolic steroids and had cosmetic surgery carried out on his nose when he was in his early twenties. Despite being intelligent, he made the decision to drop out of high school before completing his final exams. He was employed as a "mid-level leader" in a customer service company while running his own outsourcing programming services company. He said that this sideline was so successful that, by May 2003, he decided to quit his day job to focus all his time on his company, which was called "E-Commerce Group" and had two employees in Norway, two in Russia, one in Romania and one in Indonesia. This company proved successful and, by 24 years of age, he claimed he had earned his "first mill" in Norwegian Kroner (Pantucci, 2011). He also started out a company that sold fake diplomas online. During this time, Breivik claims he was a successful businessman and that he earned millions. However, the police estimated that he received only 4.5 million NOK (which is about €600,000) for false diplomas and sales on the stock exchange (Melle, 2013). By 2005–06, the

economic recession had hit and, after withdrawing the funds that he could, he shut the company down and filed for bankruptcy. He reported that he then devoted the subsequent three years to working on his "compendium" while also playing the online game World of Warcraft (WoW) "part-time" during the first 12 months of this three-year period. Breivik also admitted that, when he was attempting to play the stock market between the years of 2005–08, he lost a substantial amount of funds (Pantucci, 2011). Breivik was declared bankrupt in 2006, at which point he moved back home to live with his mother. Changes to his behavior were reported by his friends from this time onward. They noted that he was becoming increasingly withdrawn, spending the majority of his time online playing WoW and withdrawing from any interaction with his friends, who were concerned that he may be suffering from an addiction to gambling. He founded a farming company in 2009, then, during the spring of 2011, he started renting a farm in a rural area outside of Oslo. This afforded Breivik a cover for him to be able to purchase huge quantities of fertilizers without raising any suspicion. This background information is inconsistent with that given by Breivik in his manifesto that he posted online on the day of the attacks (Melle, 2013).

Possible developmental trajectory

Given the detail that Seierstad (2013) and Borchgrevink (2013) provide, some discussion of Breivik's possible developmental trajectory can be made. It may be that an unpredictable style of parenting (such as alternating between inviting contact and pushing away from contact), led to an ambivalent style of attachment being formed between Breivik and his mother. Given this possibility, the oppositional behavior and aggression that he showed towards his mother, which was not evident in other settings, may indicate a Reactive Attachment Disorder (RAD) (Borchgrevink, 2013). The Diagnostic and Statistical Manual 5th Edition (DSM-5) classifies RAD as a trauma- and stressor-related condition of early childhood caused by social neglect and maltreatment. Children with RAD have an impaired ability to form emotional attachments to others. They also exhibit a reduced ability to experience positive emotion, they cannot seek or accept physical or emotional closeness, and may react violently when they are held, cuddled or comforted. They are unpredictable, and difficult to console and discipline. Moods fluctuate erratically. The majority of children with RAD have a strong desire to control their environment and to make their own decisions. Any changes to the routine or attempts to control, or invitations to comfort that are not solicited, may elicit rage, violent behavior or self-injurious behavior in the child with RAD (Ellis & Saadabadi, 2019). When Breivik was two years old, he was an angry child. For instance, he would hit his mother and sister. He also displayed defiance; he would run away from his mother when they were out on trips; he experienced difficulties with making friends; he exhibited attention-seeking behaviors; displayed "no language to express his emotions" and was described as "lacking empathy" (as stated by child psychiatrist Per Olav Naess in Seierstad, 2013). These features are also consistent with a possible

diagnosis of oppositional defiant disorder. ODD is characterized by defiance, disobedience and hostile behavior towards authority figures (American Psychiatric Association, 2013).

Seierstad (2013) describes Breivik's cruelty to animals in his early years. For instance, he would squash ants; poke rats with pencils and pens; and drown bumblebees. Neighbors were even wary of him when he was around their cats and dogs. Borchgrevink (2013) even quoted Breivik's own mother as making the comment that he is "restless and lately more and more violent, capricious and full of unpredictable quirks… hyperactive." The State Centre for Child and Youth Psychiatry also observed that:

> (he) sits passively with toys, wanders aimlessly, kept a distance from the specialist who was in the room with him … when playing shop games with other kids, it was the functioning of the till that interested him, not the game around it. He lacks imagination and empathy.
>
> *(cited in Borchgrevink, 2013)*

During the time of this assessment, he was also described as being a clumsy child (Faccini & Allely, 2016).

As an adolescent, Breivik showed evidence of not following the rules. For instance, he "tags" over more prominent artists' graffiti. He also urinated in the corner of a basement recreation room (an act that gave him a nasty reputation) and urinated on a woman's property after she reprimanded him. In school, he bullied other students; on numerous occasions he was arrested for writing graffiti (he was also suspected of stealing colored spray cans); tried to become part of a gang, hit others and tried to imitate the expressions the tougher boys used. After only three years, he left secondary school. All of these types of behavior would indicate that he escalated to engaging in conduct-disordered behaviors. Breivik then began to engage in adult antisocial behavior. He also began to lie about things he had done. For instance, he lied about having completed an MBA course and that he was taking part in the Progress party's course in order to prepare for a career in politics. He had also developed a significant knowledge of weapons, created a business that sold fake college diplomas, avoided paying tax, engaged in money laundering, abused steroids and plagiarized the literary work of other people (Seierstad, 2013; Faccini & Allely, 2016). More of the details of these behaviors are discussed later.

2083: A European Declaration of Independence

There is a tendency for mass murderers to leave some final communication (which is frequently sent to the media), which would indicate their need or wish to convey their innermost feelings in the event that they do not survive the attack (Leonard et al., 2014). Therefore, such documents are potentially "rich sources of data about their motives and psychopathology," which are particularly useful for examination by forensic psychiatrists, etc, in order to obtain some degree of insight into what

motivates the individual, for instance (Knoll, 2010). Such information was available in the case of Breivik.

Approximately three hours prior to his attack, Breivik disseminated a PDF email file that contained his self-published manifesto/compendium, which he entitled: "2083: A European Declaration of Independence." The manifesto is extensive, with more than 1500 pages. Breivik wrote it using the pseudonym "Andrew Berwick," (Berwick, 2011). In Breivik's court testimony, he argued that the main objective of his attacks was to draw attention to his compendium (Ravndal, 2013). Breivik makes the statement in his compendium that the European governments have launched a "campaign of deception" against their people, in order to introduce multiculturalism, which will result in Eurabia, with the Muslims taking over Europe (Berwick, 2011, p. 47). Some of the other areas that Breivik talks about in his manifesto are what he refers to as the Islamic takeover and on the relative proportion of non-Muslims compared with Muslims (Hemmingby & Bjørgo, 2015).

The manifesto starts off with an introduction, which is then followed by three books. The first book details the case against what he calls multiculturalism and cultural Marxism (MC/CM) in Europe: "What you need to know, our falsified history and other forms of cultural Marxist/multiculturalist propaganda." In the second book, Breivik outlines what he considers as being the dire circumstances that Europe is facing as a direct result of pro-MC/CM policies: "Europe Burning." The third book, which he called "A Declaration of Pre-emptive War," provides the reader with very detailed plans for retaliation against MC/CM, lengthy instructions on how to prepare for (and train) and execute acts of violence supporting his cause, as well as a self "Q&A," and a detailed journal that outlined his own experiences while he prepared for his "mission." One of the most prominent themes in his manifesto was his call for the deportation of all Muslims from, most notably, Norway and from Europe in general (Berwick, 2011, see Leonard et al., 2014). The compendium contains a large amount of writing by other authors. For instance, more than 35 passages are written by the blogger "Fjordman"/Jensen. Some of the other authors whose writings that Breivik included in his manifesto shared similar political views to himself, including: "Bat Ye'Or"/Littman, Serge Trifkovic and Robert Spencer (Leonard et al., 2014). If you look at the composition of his manifesto, you can clearly see evidence of Breivik's outside influence. Breivik admits that 60% of his manifesto is cut and pasted, with the remainder being his own writings (Siddique & Pidd, 2012). Breivik's plagiarism "demonstrates the existence of a network in which he developed ideology and his reliance on the work of others" (Stroud, 2013, p. 6). It is well supported that some of the main parts of the 1500 pages are cut and pasted from other sources, including from extremist groups and right-wing bloggers as well as from Karl Marx, Tony Blair, Osama bin Laden and George W. Bush (Melle, 2013). Although a large amount of the manifesto contains quotations, at least the interview (which Breivik appeared to have conducted on himself) appears to be solely his own writings. He covers a variety of topics, including: his attitudes towards immigration; European politics; episodes about his childhood; friends, private life, etc (Milbradt, 2013).

Interestingly, in their paper, Leonard and colleagues (2014) pointed out that Breivik had copied passages from the manifesto written by Theodore Kaczynski, which is entitled "Industrial Society and Its Future" (it is typically referred to as the "Unabomber Manifesto"). Rather than quoting and citing Kaczynski, Breivik selected a section of his manifesto and simply substituted the word "leftist" with the phrase "cultural Marxist" and claimed the writing as his own. One possible motive for this is that it enabled him to distance himself from Kaczynski, who is widely regarded as being someone who was severely mentally ill. Despite extensive plagiarism, Breivik's own "voice" appears in sections of Books 1 and 2, and very prominently in Book 3.

Leonard and colleagues (2014) analysed Breivik's writing style in his manifesto and also referred to the two psychiatrists' reports. They argued that Breivik appears to have narcissistic personality disorder (NPD), whose grandiosity may have resulted in him being considered initially as being mentally ill. However, Leonard and colleagues reveal that following closer examination Breivik shows deliberate attempts to methodically indoctrinate and deceive potential readers and to spread terror throughout a nation. This paper published by Leonard and colleagues included one of the forensic psychiatrists who not only personally examined Breivik for more than 37 hours but also reviewed more than 10,000 pages of documents, as well as over 230 hours of interrogation audio and video materials. In Book 3, which Breivik named "A Declaration of Pre-Emptive War," there is a written disclaimer in which Breivik makes the claim that the book was "a hypothetical response" to the perceived threat of cultural Marxism. He then goes on to explain why this fictional plot should alert European governments about what may happen. He then provides very detailed instructions for readers on how they should patiently and methodically prepare for their attacks on government officials. More of the detail of what he covers in this part of Book 3 is outlined later in this chapter.

Breivik considered himself to be an advisor to scores of like-minded individuals who would read his manifesto and attain his rank in the PCCTS [Pauperes commilitones Christi Templique Solomonici, The Poor Fellow-Soldiers of Christ and of the Temple of Solomon, the full name of the Knights Templar]. Pseudocommando mass murderers often place the blame for their actions on their intended targets (Leonard et al., 2014). Breivik made the following statement in his manifesto: "Until the day you decide to act, we the free people of Europe will have no choice but to take matters into our own hands and act accordingly" (Berwick, 2011, p. 808). Breivik recognized that his actions would be cruel and he even named one of the sections in his manifesto (section 3.23) "The cruel nature of our operations" (Berwick, 2011, p. 837). Nonetheless, in his writings, he was frequently ambivalent and showed some indecision in his actions. He made the following statement in his compendium: "We do not want to do this but we are left no choice" (Berwick, 2011, p. 837). After his arrest on July 22, 2011, Breivik, under interrogation, stated to the police officers that it was the worst day of his life and he had been dreading the day of the attack for two years (Tørrissen & Aspaas, 2012). The risk of apprehension was something that Breivik was very clearly well aware of

as he wrote a whole section (3.47) in his manifesto that focused on "Avoiding apprehension/arrest and death" (Berwick, 2011, p. 934). He advised potential recruits that they must be prepared to martyr themselves, while at the same time cautioning them not to be too eager to die, as that would have a negative impact on the level of patience that they require in order to successfully carry out their mission (Leonard et al., 2014).

Breivik used his activities on the online computer simulation World of Warcraft (WoW) as a partial cover story while he was making the preparations for his attacks. He would say he was playing this game whenever people asked him what he was doing (Berwick, 2011, p. 1382). However, he does state that for approximately a year he played WoW "hardcore" (Berwick, 2011, p. 1408). He may have done this so as not to appear a "loser" who played games to the extent that he did. Or he may have done this because of his need to boast about how successfully he played the game. For instance, he makes the following comment in his manifesto regarding his WoW activities, noting that his was "one of the most progressed guilds in the world at one time" (Berwick, 2011, p. 1408). Some have even suggested that the isolative time he spent playing WoW may have been his "first break" of psychosis in his progression to supposed paranoid schizophrenia. However, some have argued that (those who are familiar with WoW) obtaining the level of "world class," as Breivik did, requires an organized focused mind of the type that would be unlikely for an individual who is experiencing acute psychosis. Instead, they argue this behavior reflects his tedious preparation for the attacks (Leonard et al., 2014).

Breivik, for most of his book, was careful not to include the names of people in his manifesto due to the need for operational security. It is uncertain if this was done out of genuine concern or whether he was delusional. However, some evidence does suggest that Breivik was in contact with British anti-Muslim extremists such as the English Defence League: although, in his writing, Breivik dismisses them as being naïve. It appears that he attended some of their marches and was friends on Facebook with a number of them (Pantucci, 2011).

In Book 3 of his manifesto, which Breivik named "A Declaration of Pre-Emptive War," there is a large section in which Breivik provides detail on how to carry out a lone-actor terror attack. Everything from how they should conduct themselves in public in order to not be detected while acquiring ammunition to very detailed instructions on how to make a bulletproof uniform at home. The one he himself wore on the day of the attack was hand sewn by himself at home. He also gave a detailed description of how he made the bomb and also included his personal reflections on every step and misstep throughout the whole process of preparing for the attack and making the bomb. Specifically, he outlines information in his manifesto on creating credible cover stories to avoid scrutiny for successful delivery of base chemicals (Berwick, 2011, p. 1011); gives information on how to create chemical/biological bullets (Berwick, 2011, p. 1013); offers a guide on how to extract poison from castor beans (Berwick, 2011, p. 1018); outlines safety precautions when working with pure nicotine (Berwick, 2011, p. 1020–1021); gives information on how much of 99% pure nicotine you need for each hollow point bullet

(Berwick, 2011, p. 1021); offers tips when ordering chemicals from other EU countries or from Asia and also provides information on the factors that will increase the chances for successfully ordering/receiving pure nicotine and other chemicals (Berwick, 2011, p. 1022). He also provides detailed information on the storing and securing of other incriminating information/items; preparing explosives; making a test device; providing equipment – weapons, ammunition, armour and explosives; creating credible cover stories to avoid scrutiny, etc.

Breivik also outlines the necessary grooming/clothing/lifestyle standard that is needed for all personal contact with suppliers/couriers, such as: concealing any visible tattoos; having no visible piercings; not adopting a military hair cut; have a conservative haircut and avoid dying hair black; avoid wearing a bomber jacket; using appropriate transport such as a Hyundai Atos in pensioner grey rather than having a hillbilly swamp jeep; wearing high quality clothes in conservative colours (e.g., Lacoste). Essentially, Breivik argues that the goal is to look and act like a "well-educated European conservative pensioner type character" (Berwick, 2011, pp. 1010–1011). Breivik also provides details regarding some of the sacrifices (e.g., financial costs) he had to make in order to create the manifesto and work on his project, which took a total of nine years.

Preparing for a large-scale attack is costly, even more so if you are operating as a lone actor and are not being funded as part of a larger group. Breivik appears to have financed his attack preparation predominantly with the profits he got through an online company called Diploma Service, which sold fake diplomas from American universities to foreign citizens. It is uncertain whether Breivik knew that he would be using the earnings from the fake Diploma Service to finance a future terrorist attack when he established it back in 2002. However, the surplus provided him with enough funds to enable him to quit working in 2006. On April 26, 2011, he ran out of personal funds and it was at this point that he began using credit cards (presumably acquired online) in order to continue financing the rest of the preparations for his attacks (Ravndal, 2013).

It appears that it was very important to Breivik that he was viewed as a lone warrior who was a "single sleeper cell" that was self-indoctrinated and also that he had planned his attack over a duration of nine years with little interaction with others. His own writings in his manifesto about how he went about purchasing equipment and making things does indicate that he did this himself with no external support. He was meticulous in building cover stories for himself prior to purchasing items that, although commonly available, may raise "red flags" when purchased in the large quantities that he needed. Some key meetings appear to have helped him crystalize his ideologies, particularly his meeting in London in April 2002 – although numerous important interactions also appear to have taken place online (Pantucci, 2011).

Breivik not only wrote and disseminated a lengthy manifesto, he also created a video. In this video, he synthesises the arguments he outlines in his manifesto into a 12-minute long collection of images and quotes structured into four key parts: "The Rise of Cultural Marxism," "Islamic Colonization," "Hope" and "New

Beginning." The video contains images of Breivik armed and in uniform. In the video, he calls on conservatives to embrace martyrdom and aims to rally together with a new generation of crusaders (Stroud, 2013).

Breivik's use of the internet and social media: the road to militancy

One study reviewed new sources on Breivik's internet adventures and road to militancy (Ravndal, 2013). They predominantly reviewed all of Breivik's original posts and comments that he made on numerous online discussion forums between 2002 and 2011. They also used new information that came to light during Breivik's trial hearings regarding his use of the internet. They also reviewed a collection of Breivik's private emails, which were sent by Norwegian hackers to a Norwegian journalist six days following the attacks. A synthesis of more than 7000 emails was later published as a book (Stormark, 2012). One of the most intriguing findings from the analysis that Ravndal (2013) conducted on Breivik's original posts and comments made between 2002 and 2011 on a number of discussion forums online (as well as the private emails) is that the majority of the political statements he makes do not come across as any more extreme then the statements that you see in mainstream far-right thinking. Breivik, in all his posts and writings, avoided making any reference to the use of violence as a legitimate means to further political agendas. It is important to point out that this does not mean that Breivik did not radicalize during this time, as it is evident that he did. However, it would indicate that he kept his most extreme views to himself and did not reveal them in online posts during the lead up to the attacks. Breivik was a member of a number of far-right extremist forums and would also write on politically neutral and conservative online debate forums. In 2008, he registered a user account on Stormfront, which apparently is the world's largest online forum for white nationalism. On Stormfront, he posted about his interest in race theories and also posted that he wanted to unite all the different factions of the far-right movement. In 2009, he also registered a user account for the Nordic far-right extremist forum Nordisk.nu. Interestingly, a number of experts argue that the counter-jihad movement played a significant role in Breivik's violent radicalization (Ravndal, 2013). Counter-jihad refers to a transnational political movement whose primary aim is to reverse the Muslim immigration and the introduction of Islamic culture to the Western world (Archer, 2008). That Breivik was influenced to some degree by numerous counter-jihad bloggers, including Fjordman, Robert Spencer and Andrew Bostom, is unquestionable. However, a more detailed investigation of Breivik's posts on a number of internet forums indicates that he had established his radical ideas well before the establishment of the counter-jihad blogs (Ravndal, 2013).

Examination of Breivik's private email correspondence shows that he spent much time trying to establish a paper journal in collaboration with the Norwegian conservative blog Document.no and the Norwegian Progress Party in 2009 (Stormark, 2012, p. 239–248). Some of the other things he tried to do was to help

support Document.no in improving their use of social media platforms and also assist Fjordman in distributing his book titled "Defeating Eurabia" to a larger audience. All of these proposals were rejected. He also contacted Fjordman about his own book project in an attempt to impress him. However, Fjordman showed no interest in his book. All of these rejections from the people he admired must have had a detrimental effect on him. Indeed, Breivik began the physical preparations for his attacks the same year his proposals were rejected (Ravndal, 2013).

A lone-actor terrorist may use social media platforms (e.g., seek out social or political fellowship with like-minded individuals in online chat forums). If these forums, or someone on the other end, are being monitored, detection may occur. However, if the individual intentionally downplays their extremist views and uses encryption tools in order to hide their personal identity, they may go undetected as posing a potentially serious risk – as was the case with Breivik. When he was on the internet, he would hide his IP-address but was also downplaying the extremist views that he had (that we see in his manifesto, for instance). Even his political opponents, who follow the far-right forums, confirm that there were people on those forums who wrote a lot worse things than Breivik (Hemmingby & Bjørgo, 2015).

Up to less than four months before Breivik carried out his attacks, he wrote a total of 76 posts on Document.no (between September 7, 2009 and March 25, 2011). The police investigation revealed that Breivik began his preparations for the attacks around about the same time he started being an active discussant on this blog. Yet, nothing in his 76 posts indicates that he was preparing for a terrorist attack (Ravndal, 2013).

The significant role that music played for Breivik

Music had a real significance to Breivik. It played a fundamental role during the time he was preparing for his attacks. Music was important in maintaining his enthusiasm, motivation and morale. In his manifesto, he names three musicians that he considers as being particularly significant to him, namely, Helene Bøksle, Clint Mansell and Saga (Stroud, 2013). Breivik regarded these musicians as operating outside of the mainstream music industry and that they were conforming to his ideology. For Breivik, then, listening to these musicians was important in making him feel part of a community during the time he spent in isolation as he prepared for his attacks (see Stroud, 2013). In his manifesto, Breivik highlights the importance of ritual when preparing for "martyrdom" and to help maintain enthusiasm, morale and motivation (e.g., see Berwick, 2011, pp. 845–846).

Leakage

In the summer of 2006, Breivik moved back home to live with his mother. A year after (his hibernation), Breivik had a rare meeting with his friends. He informed his friends that he was collecting texts to prepare for a book he was going to write about what he called the "Islamisation of Europe," but his friends did not believe

he was writing a book. Instead, they became worried about him and suspected that he had become a compulsive gamer. After two years of being back at home with his mum, in the summer of 2008, he suddenly contacted his friends, feeling sociable. He had changed, going from someone who always had a number of things on the go to having a one-track mind. He would give lengthy lectures during that summer on what he referred to as the "Islamisation of Europe." His friends would allow him to talk for a while before asking him to talk about something else. Because his friends were so relieved to see that he was finally getting out, they tended to gloss over or ignore his peculiarities, his strange behavior and extreme topics of conversation. "Do you think anyone's going to be interested in reading your book?" one of his friends asked him. Breivik responded to this question with just a smile. Despite his strange behavior, the knowledge he had acquired nevertheless impressed his friends (Seierstad, 2013, pp. 153–154).

Forensic evaluations

Breivik's trial for murder occurred nine months after the attack. At the trial, Breivik freely admitted to the killings. However, he argued that his attacks were "the most spectacular sophisticated political act in Europe since the Second World War" (Cowell, 2012). He made the claim that his actions were an act of "self-defense" in order to protect Norway from the increasing influence of Muslim immigrants and multiculturalism (Appelbaum, 2013).

First psychiatric evaluation

Breivik would not have been considered to be accountable for his actions had it been shown that he was experiencing psychotic symptoms while he was carrying out his attacks (Bortolotti, Broome & Mameli, 2014). The first psychiatric evaluation, which was conducted by Torgeir Husby and Synne Sørheim, diagnosed Breivik with paranoid schizophrenia and some of his most implausible beliefs were considered to be persistent, systematised and bizarre delusions. For instance, he said that he was the leader of a Knights Templar organisation, which the Norwegian police say does not exist. Breivik remained convinced of the existence of this organisation and also claimed that, in 2002, he attended the organisation founding ceremony in London. Another bizarre belief that Breivik reported was that he was shortly going to be appointed the new regent of Norway and the decision about who would live and who would die in the nation would be his. Because of the content of some of his beliefs, it was initially thought that he had grandiose delusions. Many individuals that Breivik associated with in the extremist groups shared similar anti-Islamic and racist views to him. However, what separated Breivik from the majority of the others in these extremist groups was his belief regarding the specific roles he currently had and would have in the future in the cleansing projects. This belief appeared to be significantly delusional and idiosyncratic (Bortolotti, Broome & Mameli, 2014).

Also, the first team of psychiatric assessors perceived his language as being stilted and technical. He would apply common words within new contexts and also integrate unusual words. These unusual words were ones that he said he had made up himself, but psychiatrists considered them to be neologisms. Neologisms refers to new words that are developed (in particular by individuals who have a diagnosis of schizophrenia) and are meaningless to everyone but the individual who coined them. Neologisms are usually a mixture of two existing words or it could be an existing word that has been shortened or distorted. He did not exhibit any other signs of grossly disorganized speech or behaviors. He frequently exhibited restricted, but on occasions inappropriate, affect, when he was discussing his attacks and the individuals he killed – something that he referred to as "the executions of traitors." When Breivik got animated when talking about his shooting rampage and about his manifesto, the first set of psychiatric assessors regarded this as evidence of affective flattening with episodes of incongruent affect or inappropriate affect. Affective flattening is characterized by a restricted range of expressed emotions. It is relatively common in individuals with schizophrenia. Individuals with affective flattening display relatively immobile and unresponsive facial expressions, which is typically coupled with poor eye contact and little body language or movement. He did not display any outward signs of depression, mania, auditory hallucinations or ideas of reference, influence phenomena or ideas of thought insertion. He had been taking anabolic steroids in the lead up to the attack. In addition, he consumed large amounts of ephedrine, caffeine and aspirin on the day of the attack. At the point of arrest, blood samples were taken from Breivik that revealed evidence of these substances in amounts that could potentially exacerbate any mental health issues, but could not directly cause them. Psychiatrists concluded that Breivik had paranoid schizophrenia based on the symptomology he displayed, most notably the bizarre grandiose delusions he appeared to have (Melle, 2013).

It has been argued that the first team of psychiatric assessors failed to take into consideration when making their diagnosis of paranoid schizophrenia the right-wing context in which Breivik made his assertions (Måseide, 2012). Therefore, the first team of assessors placed significant importance on the implausibility and idiosyncrasy of Breivik's beliefs. Ingrid Melle (Melle, 2013) has put forward another interesting interpretation: specifically, that Breivik had schizophrenia all along. However, his symptoms were less florid when the second team of assessors were evaluating him several months following the attack (Bortolotti, Broome & Mameli, 2014).

Second psychiatric assessment

The first team of psychiatric assessors diagnosed Breivik with paranoid schizophrenia. However, a second assessment, which was carried out by Agnar Aspaas and Terje Tørrissen (Tørrissen & Aspaas, 2012), overruled the diagnosis given by the team who carried out the first assessment. This second team maintained that Breivik's strange beliefs were not due to psychotic symptoms within the context

of schizophrenia or any other type of psychotic disorder. Instead, they argued that Breivik's strange beliefs were due to a personality disorder (Melle, 2013). The psychiatrists who conducted the second psychiatric evaluation found that Breivik had removed himself or taken a distance from a number of his most bizarre claims. They gave the following example. Breivik himself had admitted that he had just wanted to believe that he had played a key role in the Knights Templar organisation (Bortolotti, Broome & Mameli, 2014). Aspaas and Tørrissen diagnosed Breivik as having a severe narcissistic personality disorder (NPD), which was comorbid with pseudologia fantastica (also known as pathological lying). NPD is characterized by a pervasive pattern of grandiosity, need for admiration, interpersonal exploitiveness and lack of empathy. These features have an onset in early adulthood and manifest in a variety of contexts (*Diagnostic and Statistical Manual of Mental Disorders* – Fourth Edition, DSM-IV, American Psychiatric Association, 1994). Given this diagnosis, Breivik could be considered legally accountable for his actions (Newmark & Kay, 1999) as they did not consider him to be psychotic at the time he carried out his attacks. According to Norwegian law, if an individual is found to have experienced psychotic symptoms at the time they carried out their criminal acts, they should not be held responsible for those criminal acts. Surprisingly, the second evaluators' primary diagnosis of NPD was not discussed in any detail during the trial (Melle, 2013; Bortolotti, Broome & Mameli, 2014).

In terms of the negative symptoms that Breivik exhibited, Aspaas and Tørrissen looked predominantly on his social withdrawal, which they argued was a consequence of planning a terrorist attack as opposed to being one of the symptoms of schizophrenia. What was not discussed, however, was the degree to which Breivik's indifference to his victims and his occasional displays of incomprehensible affective could be indicative of an affective disturbance (Melle, 2013). Affective disturbance is a disruption in the multi-system response (subjective experience, expressive behavior, physiology) of emotions, moods and stress responses. It can be used to refer to negative affective states (such as anxiety or depression) or positive affective states (such as euphoria or mania). Impaired emotion regulation ability is one of the most common reason underlying affective disturbances (Jazaieri, Urry & Gross, 2013). Importantly, Aspaas and Tørrissen rejected the diagnosis of schizophrenia provided by the first team of psychiatric assessors because Breivik was not psychotic during the time of his attack or at any point during the psychiatric interviews they carried out with him. Nor did he exhibit any hallucinations or Schneiderian first-rank symptoms. Features displayed by Breivik (emotional disturbances, indifference, social withdrawal) that were considered to be negative symptoms of schizophrenia by the first team of assessors were given a different explanation by the second team (Melle, 2013).

Lastly, another argument against the diagnostic conclusion reached by the first team of psychiatric assessors that is worth mentioning here is that one delusion is enough to fulfill the diagnostic criteria of psychosis according to the DSM-IV, even if not sufficient to give a diagnosis of schizophrenia. For instance, an individual

could have a psychotic disorder (such as delusional disorder or an affective psychosis), therefore if Breivik had any delusions, then a diagnosis of psychosis would have been appropriate (Bortolotti, Broome & Mameli, 2014).

Evidence of narcissistic personality disorder (NPD)

The conclusions made by the second team of psychiatric evaluators have been supported by others. For instance, it was also argued by Dr Rosenqvist that Breivik was experiencing a malignant NPD and tried to maintain a sense of grandeur and importance even in the first couple of weeks of his incarceration. This sense of grandeur and importance was something he attempted to maintain even more so during the trial. Several times during the court proceedings, evidence of Breivik's narcissism and arrogance is obvious. On one occasion during the court proceedings, Breivik lectured a testifying professor in toxicology regarding the effects of ephedrine, acetylic acid, anabolic steroids and dehydration, stating that the professor may not have known about these facts or have read any of the international literature. Another example of Breivik's narcissism was when he compared himself to the historical figure of Vidkun Quisling. During the Second World War, Vidkun Quisling betrayed Norway and joined Hitler. Breivik said that he would be reviled as much as Quisling after he carried out his attack. Breivik displayed a sense of pride when he made this comparison. Additionally, with subjects that interested him, Breivik knew quite a lot. However, in a number of the topics that he claimed to have significant in-depth knowledge about, he demonstrated only a superficial level of knowledge. Whenever this was exposed, he would counter by saying that the topic was unimportant. During the court proceedings, a reconstruction video of the bomb was played. He smiled and looked satisfied when the military bomb expert informed the court about the complexity of the bomb that Breivik had made (Leonard et al., 2014).

It has also been reported that Breivik had plastic surgery on his nose so that he could achieve a more Aryan appearance ("Norway Massacre: the real Anders Behring Breivik," *Sunday Telegraph*, July 31, 2011). An experienced surgeon who works at one of Norway's leading plastic surgery clinics had made a small incision and removed some bone and cartilage from below the bridge and sewn the skin back together. Breivik also made enquiries about getting a hair transplant. However, he decided against getting a hair transplant when he was informed that the results were not always predictable and that there was the possibility that the transplant process could leave significant scarring (Seierstad, 2013, p. 84). It has been reported that Breivik regrets the surgery he had carried out on his nose, saying that before the surgery he "had a great Nordic nose" ("Anders Behring Breivik regrets loss of 'Great Nordic Nose'," *Telegraph*, November 30, 2011). Breivik would also reward himself with Chinese takeaway following a day of preparing for his attack. On one such evening, he went to a restaurant to get Chinese takeaway and wrote the following in his log:

> There was a relatively hot girl in the restaurant today, checking me out.' … "Refined individuals like myself are a rare commodity here so I notice I do get a lot of attention. It's the way I dress and look. They are mostly unrefined/uncultivated people living here. I wear mostly the best pieces from my former life, which consists of very expensive brand clothing, Lacoste sweaters, piques etc."
>
> *(Seierstad, 2013, p. 241)*

Breivik also referred to himself as being a metro-sexual. A metro-sexual is a term used to describe a man (particularly one who lives in an urban, post-industrial, capitalist culture) who is particularly meticulous about his grooming and appearance, typically spending large amounts of time and money on shopping in order to do this. Indeed, Breivik would dress up and wear make-up and also used vitamin-enriched hair products. For instance, he had ordered Regaine from the United States. Regaine is a product that promises to stop loss of hair and to encourage the follicles into new growth. His hairline was definitely receding, but he would try to hide his bald patch with a good quality haircut. Much of Breivik's appearance grieved him and he would spend much time looking at himself in the mirror. His friends laughed at him when he overdid the make-up and also teased him when he began to wear foundation. When they teased him about this, he would respond that it is concealer. During the summer, he would apply bronzing powder. In the bathroom, he also kept a row of aftershaves (Seierstad, 2013, pp. 83–84). In December 2004, Breivik ordered the contact details of ten women from a dating website in the Ukraine, something that his friends regarded as being particularly strange behavior. The website contained the profiles of thousands of women from all over Eastern Europe. He ordered a further 10 in February the following year. Breivik paid the website a total of one hundred euros. Before this, Breivik had said to his friends that Norwegian girls would not make good housewives and were too liberated. From the website, he selected a woman from Belarus. Breivik and his friends went to Minsk to meet with her and she also visited Norway. However, during her visit to Norway, the relationship was terminated (Seierstad, 2013).

Breivik, in his self-published manifesto, "2083: A European Declaration of Independence," which he posted online (Berwick, 2011), makes reference to his good looks on a number of occasions. If you look at the end of his manifesto, you will see numerous pictures of Breivik, where he is posing in a range of uniforms, including: Knight Templar officer uniform; a wetsuit with military equipment; a chemical warfare suit, etc. In the lead up to his attacks, Breivik paid a company to remove all pictures of him from the internet. This meant that the pictures that the media would use following his attack would be the ones that he included in his manifesto, where he appears exactly how he wants to appear to the world. He also practised extensively for the interviews he might do after the attacks (Pantucci, 2011). Before the attacks, it was Breivik's intention to manipulate the trial for his own, idiosyncratic reasons (de Graaf et al., 2013). He realized that a trial would offer him a platform, a stage to the world, where he could disseminate his

ideologies and political views, etc (de Graaf et al., 2013). He made the statement in his manifesto that your trial provides a stage to the world (Berwick, 2011).

Breivik moved back to his mother's home in 2006 and took a year off only to play online computer games such as WoW (Måseide, 2012). It is not known exactly why Breivik moved back home to live with his mother. Breivik argued that his reasoning for this was to train before the attacks. He stopped working, began to behave strangely and withdrew from social contact with both family and friends. Husby and Sørheim (the first team of psychiatric assessors at his trial) have postulated that this behavior may have been the onset of schizophrenia. However, Aspaas and Tørrissen (the second team of psychiatric assessors at his trial) argued that his antisocial behavior was already well-established and developed. They argue that he may have made the decision to move back home to live with his mother due to practical or logistical reasons, while he was able to maintain social contact in a virtual world online (Måseide, 2012). Breivik stated in court that he knew he was going to engage in a suicide mission at some point, so this was "a martyrdom present" to himself. WoW was one of the multiplayer games that Breivik predominantly played. A testimony was given in court by a fellow gamer who stated that Breivik would play on WoW a maximum of 16 hours a day. Among his fellow gamers, he was well regarded and was also what is referred to as a guild-leader. He was an extremely dedicated player. In the game, to determine which strategy would be most successful, he would mathematically calculate the probabilities of success for each of the different strategies. One of Breivik's first WoW characters was called "Andersnordic." He was a level 77 (referred to as a "mage") with the Justicar title. To achieve such a level takes a lot of time and "playerkilling" (Schereier 2012). Later, on a different server, he also played two other characters, specifically, a human female mage he called "Conservatism" and a tauren female "druid" called "Conservative" (Schereier, 2012). In addition to playing WoW, he also played *Age of Conan, Modern Warfare, Imperial Warfare, BioShock, Mass Effect, Evony, Astro Empire, Dark Orbit, Lord of the Rings Online, Starcraft* and many other games (Stormark, 2012; Ravndal, 2013). It is important to highlight here that, during Breivik's trial, the game Call of Duty was subject to significant attention. In court, Breivik stated that playing the game helped him practice the holographic weapon gun sight that he used while he carried out his attack on the island of Utøya. He also explained in court that playing the game online also enabled him to practice the scenario where the police may try to capture him by employing the pincer movement. In terms of Breivik's online preparations for his attack, online gaming was only one small part of it (Ravndal, 2013).

During the court proceedings, Breivik stated that he had acquired online over 600 bomb-making manuals, with recipes that involved over 100 different types of explosives. He would also go on the internet in order to study al-Qaeda attacks as well as al-Qaeda in the Arabian Peninsula's *Inspire* magazine to get information on the different types of explosives and techniques he could use. Ravndal highlighted that, through both experimentation and dedication, Breivik appears to be the first person who has been able to produce a bomb from diluted fertilizer. It was following the Oklahoma City bombing, which occurred in 1995, that Europe

introduced the new measure to dilute the concentration levels of ammonium nitrate in fertilizer in order to ensure that fertilizer products would not be viable ingredients to make bombs. Breivik knew about this measure and told the court that all the recipes he acquired for making bombs did not incorporate fertilizer because of it. In the bomb-making recipes he had acquired, they would use explosives materials that were illegal and very risky to acquire or they would require the fertilizer concentration that existed before the measure to dilute the concentration of ammonium nitrate was put in place. As a result of this, Breivik had to integrate the knowledge from a range of different recipes and experiment to see what worked. He also failed to find a single terrorist attack that used the diluted fertilizer type (which is available on European markets today), despite an extensive search online. It was also revealed that he had collected information online regarding chemical, biological, radiological and nuclear (CBRN) weapons. However, when compared to the information he gathered on fertilizer-bomb production, the quality of this material is of a poorer standard. As pointed out previously by Ravndal, the majority of it is cut and pasted from Wikipedia and there are a number of factual inaccuracies. Breivik used the internet (most often eBay) in order to purchase the majority of the materials he used in his attacks, such as: essential ingredients for bomb-making, body armor and a range of weapons components.

Even if combined, Breivik's "mundane racist beliefs and his more idiosyncratic grandiose beliefs" offer insufficient motivation for his extremely violent actions (Bortolotti, Broome & Mameli, 2014, p. 380). It is possible that Breivik's belief that multiculturalism was significantly damaging to Norwegian society (which is a belief that many members of extremist groups have) was indeed genuine and that he was the leader of an organisation that was fighting multiculturalism, without actually engaging in the actions. Those thoughts could have been channeled into joining a political party where his views were shared by others or channeled into campaigning against Muslims and multiculturalism. In order to propel someone down the path towards extreme violence, some other beliefs need to be in place and there is a need for more investigation on what these may have been, irrespective of whether or not they are of a delusional nature (Bortolotti, Broome & Mameli, 2014).

Drugs

Breivik reported that he took drugs that he had purchased online prior to carrying out his attacks. When he was apprehended, he informed the police that he had consumed a mixture of drugs, including: ephedrine, caffeine and aspirin. He took these in order to enhance his performance (Gill, 2015). Breivik called his use of these drugs a "military strategy" (Husby & Sørheim, 2011, p. 113).

Evidence of Asperger's Syndrome

It has also been suggested that Breivik may also have had Asperger's Syndrome (e.g., Allely et al., 2014). For instance, one of Norway's most prominent psychiatrists,

Professor Ulrik Fredrik Malt of Oslo University, told the court in Oslo that Breivik may have Asperger's, Tourette's and an NPD. Professor Malt also went on to claim that it was not possible to completely rule out paranoid psychosis. Some of the features displayed by Breivik that indicate that he may have had Asperger's Syndrome include the lack of any apparent emotion he showed when he talked about the people he had killed in his attacks; his memory for details; his obsession with numbers; his hypergraphia (obsessive writing); and his monotonous tone of voice, as well as his impaired ability to understand social signals. Regarding the showing of emotion during the trial, one of the few times that Breivik ever displayed any emotion was when he watched a trailer for a propaganda film he had made to justify the one-man war he carried out on July 22. Breivik wiped away tears as the film was shown to the court room (Pidd, 2012). Further, consistent with the features of Asperger's Syndrome, Breivik had an impaired ability with understanding what other people think and feel – something that is referred to as an impaired Theory-of-Mind (ToM) ("Mass killer Breivik may have rare forms of Asperger's and Tourette's Syndromes, says Norway's leading psychiatrist," 2012). When Breivik was approximately four years of age, he was seen for a child psychiatric evaluation and the psychiatrist at the time, Per Olav Naess of the Centre for Child and Adolescent Psychiatry, also considered that Breivik had Asperger's Syndrome.

Courtroom controversies and conclusions

Breivik's trial was unusual. It was apparently unprecedented in Norway to have a situation whereby the defendant insisted that they are sane while the prosecution argued for an insanity defense, with the added complication of conflicting evidence regarding his state of mind (Appelbaum, 2013). In a letter that Breivik sent to numerous Norwegian newspapers shortly before his trial commenced, he stated that he hoped to be declared sane. Regarding the possibility of being sent to a psychiatric hospital, Breivik make the following comment: "I must admit this is the worst thing that could have happened to me as it is the ultimate humiliation. To send a political activist to a mental hospital is more sadistic and evil than to kill him! It is a fate worse than death" (Syse, 2014). Breivik was sentenced to 21 years in prison. The sentence also included a "preventive detention" clause, which states that his sentence can be extended further than 21 years if he is still considered to be a threat to society. Breivik is not likely to be released as a result of the "preventive detention" clause. Therefore, in the end, Breivik's political motives were treated seriously (Appelbaum, 2013).

In their paper, which examined the case of Breivik, Bjørkly and colleagues (2014) discussed some of the courtroom controversies regarding violence risk assessment. The first team of psychiatric assessors decided not to administer a test for psychopathy. They argued that it would not make sense given that he had lifelong and current psychosis. The second team of psychiatric assessors did administer a test investigating traits of psychopathy, specifically the Psychopathy Check List (PCL-R, Hare, 1991). This revealed that Breivik did have psychopathic traits

within the moderate range. Additionally, with regards to risk assessment, the second team of psychiatric assessors evaluated Breivik using the Violence risk screening-10 (V-RISK-10, Hartvig et al., 2007), which is a brief screen for violence risk. The scores on this screening measure were high, which prompted the need for a more comprehensive risk assessment using The Historical Clinical Risk Management-20: Assessing Risk for Violence (HCR-20; Webster et al., 1997). The conclusion reached by the second team following these two assessments was that Breivik had a very high risk of violence in the future. However, they argued that the risk would be mitigated by additional time spent in the high-security prison. However, the first team of psychiatric assessors did not administer the HCR-20 assessment, as it was their opinion that it would result in an underestimation of Breivik's level of risk for violence because "his dangerousness appears to be completely associated with his active psychotic symptoms" (translation by Bjørkly).

Another controversy of the reports was regarding the sanity issue. The court requested that the expert witnesses reached a conclusion regarding Breivik's mental status before and during his violent acts. However, Bjørkly and colleagues (2014) highlight in their paper that the reports provided very little information regarding how Breivik's mental state actually affected him at the time he engaged in his attacks. The first report that was produced by the first team of psychiatric assessors included just eight pages (3%) about this and the report that was produced by the second team of assessors included six pages (2%). The pages of the reports that do address the violent acts mainly comprise of practical information regarding food, transport, etc. Discussion is almost non-existent of what his mental state was like and how it may have had an impact on his violent actions. Bjørkly and colleagues argue that the lack of such violence-specific information is a significant limitation of these reports because this information may have helped inform decisions relating to criminal responsibility and risk assessment. It is unknown whether an act-centered approach (which would involve Breivik being interviewed about his cognitive and emotional responses during each murder) would have provided additional useful insight and information to help determine whether the attacks were psychosis-driven or personality trait–motivated.

Another interesting aspect regarding the court proceedings in the case of Breivik was pointed out by Melle. She raises the point that the court reports indicate the odd effect that Breivik appeared to have on all those who assessed him, in generating reluctance to investigate what may be behind some of the strange comments he made. Melle provided the following example. When one of the witnesses was asked if he ever doubted Breivik's sanity, the witness stated that he had once. The one occasion was when Breivik in a discussion made the suggestion that, in the future, people's brains could be directly linked to a computer, thus negating the requirement for expensive education. The witness stated that he "rapidly said to himself that this was not a psychotic notion but rather a vision of the future," rather than asking Breivik to extrapolate further on this issue (Melle, 2013).

Narcissistic decompensation

Faccini and Allely (2016) investigated the pathway to intended violence (which includes the path to violence model developed by Calhoun and Weston, 2003) in the case of Breivik. They highlighted that, up until the age of 27, Breivik had experienced a number of significant stressors, including: having a difficult relationship with his mother; having his sexual identity questioned; difficulties with dating women and abandoning his pursuit of the "ideal woman;" and being rejected by gaming elite and political elite circles (e.g., the Progress party, document.no, being given the cold shoulder by Fjordman). In sum, Breivik experienced a number of failed attempts to gain positions that would give him status, power, acceptance and admiration from others. Following these failed attempts to gain positions of power and status, Breivik moved back home to live with his mother at the age of 27 (in 2006) and experienced a "narcissistic decompensation." A narcissistic decompensation takes place when a person who has a diagnosis of narcissistic personality disorder (NPD) experiences major injuries to their self-esteem. A narcissistic decompensation can occur when there is a significant discrepancy between the individual with NPD's grandiose fantasies and the reality of their situation (the reality, for instance, that they had only ever achieved average or mediocre accomplishments). Since the person does not get the validation from reality (i.e., admiration, grand attention, adoration) that they so desperately desire, they experience what is referred to as "decompensation."

When someone is experiencing a narcissistic decompensation, they can be depressed, exhibit psychomotor retardation, experience disrupted sleep patterns, become perseverative in their speech or writing; actively pursue an addiction and display a sense of outrage (Valnin, 2003). This can then lead the individual to withdraw from interaction with others and isolate themselves due to the harsh reality that they are not of grand power or status. The longer that the decompensation continues for, the more likely it will become possible that the narcissistic individual will begin to glorify the past and may even rewrite their life story and become their own audience (providing narcissistic validation); this path is described as "the delusional narratives solution" where he "constructs a narrative where he is the hero" (Valnin, 2003). The individual, during this time, can exhibit behaviors or thoughts that are obsessive, repetitive and paranoid. The decompensated narcissist also attributes his decline to the conspiracy and then "embarks on an orgy of self-destruction intended to generate alternative supply sources (attention) at any cost." The narcissist, at this stage, has started to engage in the "paranoid schizoid solution" where there is a conspiracy identified and he starts to withdraw from others (see Valnin, 2003).

In an interview conducted with Breivik's mother, she said that, even as early as 2005, he exhibited some strange activity, moving back home with his mother and talking obsessively about politics and history. There were even some days where the idea of going home filled her with dread. He started having wild mood swings. There were occasions where he would react violently to unimportant things.

On other occasions, he would be distant, abrupt and surly. He also made the accusation to his mother that she was talking to too many people who could "infect us." When he was like that, he did not want to eat in the kitchen and would ask his mother to bring his meals to his room and, after he had finished eating, he would put the empty plate outside his door for his mother to collect. He would cover his face with his hands whenever he had to leave his room to visit the bathroom. There were some occasions where he would even wear a facemask around the house (Seierstad, 2013, pp. 199–200). He was still living with his mother in April 2011 and had started to behave in an increasingly bizarre and strange way. Around the house, he would wear an antiseptic mask, he refused to eat food that his mother had cooked for him and he accused the family doctor of infecting him with some illness (Orange, 2011).

It has been suggested by Faccini and Allely (2016) that it was not the NPD per se that is critical but the four factors, namely, narcissistic decompensation, its overlaps with step one on the path to intended violence (or grievance), the violence-only decision (step 2 of the path) and then the remaining steps, which include researching, preparing, planning, breaching security, resulting in the attack. Faccini and Allely (2016) have also suggested that it may be that the co-occurrence of both ASD and narcissistic decompensation is a particularly "explosive" combination, a combination that may result in an increased risk of an individual with ASD perpetrating acts of extreme violence (Faccini & Allely, 2016). It is critical to point out at this juncture that individuals with a diagnosis of ASD are no more likely to be the perpetrators of violent offending behavior. In fact, some studies have shown that they are more likely to be the victims of a crime (e.g., Modell & Mak, 2008). Further emphasizing this crucial point, Underwood and colleagues (2016) and others have highlighted that there is no robust evidence supporting the notion that there is an elevated risk of engaging in offending behavior in individuals with ASD when compared to individuals without an ASD diagnosis (see also review by King & Murphy, 2014). As stressed by Faccini and Allely (2016), having a diagnosis of both ASD and NPD is not sufficient by itself to propel someone down the path to intended violence. Instead, there needs to be other additional factors involved (e.g., psychosocial stressors, childhood adverse factors, head injury). Previous studies have indicated the possibility of an association between NPD and violence (e.g., Bondü & Scheithauer, 2014). However, the factor of narcissistic decompensation (possibly co-occurring with an Asperger's coping strategy) was presented by Faccini and Allely as a critical component of NPD that mediated its relationship with violence. Narcissistic decompensation then overlapped with a sense of grievance, and then when the violence-only decision was made, the person was then firmly on the Path to Intended/Terroristic Violence (Faccini & Allely, 2016).

Risk assessment

For the purpose of risk assessment (or threat management), focusing upon a static indicator such as the presence of a mental health disorder is not helpful in the

absence of also exploring exactly how it interacts with dynamic indicators such as recent stressors. Moreover, mental health disorders often share symptoms. Therefore, future research could analyse symptoms of mental health disorders as opposed to just the diagnoses themselves (Douglas, Guy & Hart, 2009; see Corner & Gill, 2015).

As highlighted by Sarma (2017), the majority of the debate surrounding risk assessment for terrorism has centered around the assessment of known terrorist offenders (i.e., risk assessment after having been involved with a terrorist organisation) where assessment is typically carried out in order to inform appropriate sentencing, rehabilitation and reintegration (e.g., Roberts & Horgan, 2008; Gudjonsson, 2009; Pressman & Flockton, 2012, 2014). There has been the development of a number of risk assessment tools for working with terrorist offenders, for instance, the Violent Extremist Risk Assessment (Pressman & Flockton, 2012, 2014) and the Extremism Risk Guidance 22 (Lloyd, 2012; Pickering, 2012; Silke, 2014), and there have been attempts to develop practice guidelines for professionals who are engaged in this line of work (Gudjonsson, 2009; see also Dernevik et al., 2009a, 2009b; Gudjonsson, 2009; Dhont et al., 2012; Gudjonsson et al., 2015).

Future research directions

To date, there has been no empirical, robust research that has investigated mental health disorders, terrorism, as well as protective factors. Protective factors can be individual factors (e.g., attitudes, academic achievement, self-control, personality factors), peer factors (e.g., having close relationships with non-criminal peers, prosocial norms within peer group) and family factors (e.g., highly connected to family, involvement in social activities) (Gill & Corner, 2017). Additionally, relatively little is known about the temporal ordering of risk factors across terrorists. For instance, we do not yet have a clear understanding of what antecedent behaviors and experiences are real risk factors for becoming a terrorist, and which ones are simply a "cause of a cause" (e.g., a factor that may exacerbate specific vulnerabilities, which may subsequently propel that individual further down the pathway to extremism, making them even more likely to experience other risk factors). If the temporal ordering (sequencing) of the behaviors and experiences are not examined, we cannot start to disentangle what are the real risk factors and which are just simply the cause of a cause (Gill & Corner, 2017).

Summary

The Norwegian terrorist Anders Breivik and the "Unabomber" Ted Kaczynski are very often used as typical case examples of the lone-actor terrorist. Both of these individuals proved capable of planning and executing deadly terrorist attacks on their own (Schuurman et al., 2019). However, both of these individuals should be considered exceptional as opposed to archetypical. When we start to look beyond these high-profile cases, we see that there are numerous examples of lone-actor

terrorists who maintain "plot-relevant social ties" that make them vulnerable to detection, are poor at maintaining operational security and start "leaking" their intentions well before their attack (Schuurman et al., 2018). Gill and Corner argue that future research investigating the association between mental health disorders and terrorism could be enhanced with better questions. Specifically, questions that move away from simplistic, dichotomous thinking, and instead are more nuanced. They go on to state that, by:

> considering multiple facets individual, social, and situational levels of analyses, terrorism research may be able to present valid, reliable evidence which aids in prevention and disruption of events carried out by terrorists with mental health problems.
>
> *(Gill & Corner, 2017, p. 239)*

Key points

- The view where terrorists are characterized as experiencing some mental health disorder purely on the nature of their behavior fail to take into consideration the highly complex neurological, psychological, biological and sociological processes that exist whereby individuals become desensitized to violence, and subsequently experience psychological consequences as a result of their engagement in terrorism (Corner & Gill, 2018).
- Research suggests that there exist far too many and varied pathways to becoming involved with a terrorist group to be able to claim that a profile of individual characteristics that could be used to identify potential terrorists will ever be possible (McCauley & Moskalenko, 2011).
- There is a need to treat radicalization to violence as a set of complex pathways rather than treating it as a simple linear process or indicators (Jensen, Atwell Seate & James, 2018).
- The challenge for those who are conducting risk assessments for terrorism is the relatively little robust clinical and empirical evidence on the risk and resilience factors that can impact on and contribute to the individual's future risk propensity. Selection of risk indicators can become arbitrary due to there being no valid evidence-base to draw from (Sarma, 2017).

Essay questions

1. To what extent do you think that Breivik's system of beliefs was delusional?
2. What role, if any, does mental health play in lone-actor terrorism?
3. Is there a lone-actor terrorist profile?
4. Is there a common behavioral trajectory into lone-actor terrorism?

Recommended key reading

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7

CONCLUSION

Threat assessment and prevention of extreme violence

In this book, I have attempted to explain the motivations and circumstances that inspire acts of serial homicide, mass shootings, school shootings and lone-actor terrorism. In this final chapter, the focus is on what can be done to prevent such attacks and extreme acts of violence.

Strategies for preventing school shootings and mass shootings

Identification of risk factors or warning signs/red flags

Developing a profile of students who are likely to become a "school shooter" or mass shooter is a flawed endeavour (Sewell & Mendelsohn, 2000; Heilbrun, Dvoskin & Heilbrun, 2009; Borum, Cornell, Modzeleski & Jimerson, 2010; Grøndahl & Bjørkly, 2016). Across shooters, there are large differences in the risk factors involved, which indicates that there exist distinct individual pathways towards carrying out a school shooting (Bondü & Scheithauer, 2015). The lack of a consistent offender profile is a consistent finding in the area of school shooting research (Vossekuil et al., 2002; Bondü, 2012), which has an obviously negative impact on preventive efforts. In addition, there are a number of potential risk factors that have low predictive power for a number of reasons. Specifically, they are found only in some school shooters, are factors which are common in adolescents, or both (Bondü et al., 2013; Bondü & Scheithauer, 2015). Researchers have highlighted that there were a number of shooters who told others about what they planned to do (e.g., Vossekuil et al., 2002; Newman, 2004). However, it is important to point out that many youths say outrageous things in order to get attention. Therefore, there should be no rush to assume that the individual who threatens an attack is a potential school shooter. The authorities will determine whether these threats are valid or not (O'Toole, 2000; Borum et al., 2010). This ensures that real risks are identified

and that overreactions do not occur (Folk & Mains, 2013; Mears, Moon & Thielo, 2017).

Although there appears to be no consistent perpetrator profile, the awareness and identification of the red flags/warning signs in combination with leakage offers a promising approach (Leuschner et al., 2017). Eight key warning behaviors have been identified by Meloy, Hoffmann, Guldimann and James (2012) for the purposes of threat assessment. Additionally, Lankford (2018) has also developed checklists of warning signs that can be used by law enforcement to help them determine whether an at-risk individual appears to have: (a) suicidal motives or life indifference that might eliminate fear of consequences, (b) perceptions of his or her own victimization that might rationalize attacks against targets, and (c) desires to obtain fame or attention through killing. Lankford and colleagues (2019) studied the 15 deadliest public mass shootings that occurred in the United States between March 1998 and February 2018 and found that most appear to have been preventable (based on information that was known about the perpetrator prior to their attack) (Lankford, Adkins & Madfis, 2019). This finding was consistent with the FBI's conclusions in their aforementioned report (see Silver, Simons & Craun, 2018). Further, Gonzalez-Guarda and colleagues (2018) showed that, in the case of the school mass shooting in Parkland, Florida, the individual appeared to have a number of "red flags." It has been suggested, following investigation, that the systems surrounding this individual failed on a number of occasions to identify his pain and stressors (and his risk for violence) and to provide interventions that may have prevented his attack. This individual had previous interactions with Child Protective Services and, arguably even more crucially, had been the subject of a number of 911 calls and tips to the FBI. The shooter had also experienced the loss of both his parents. There have also been reports that he may have been self-harming. He abused animals, posted on social media disturbing messages (some of which raised the concerns of his peers) and, for disciplinary reasons, he had been expelled from his high school (Rose & Booker, 2018; Gonzalez-Guarda et al., 2018). Additionally, what the case of Adam Lanza strongly suggests is that a child displaying the number of multidisciplinary developmental challenges that Lanza presented should be referred for thorough evaluation and assessment, including medical, psychological, occupational, speech and language, social-emotional and neurological testing (Office of the Child Advocate, 2014, p. 9).

In cases where the individual's violent intentions were unknown, such as the cases of the DC Navy Yard and Las Vegas shootings, both perpetrators had admitted that they were struggling with mental health issues prior to their attacks. They also exhibited a number of other behaviors that raised concerns in others (Lankford, Adkins & Madfis, 2019). For instance, there were indications that the Navy Yard shooter may possibly have had schizophrenia. He also had repeated encounters with law enforcement in response to his disturbing behavior (Department of the Navy, 2013). The Las Vegas shooter had been complaining about his health. His doctor believed that he had bipolar disorder. He was prescribed anti-anxiety medication. Also, leading up to the attack, he had purchased bump stocks and a

significant number of firearms and, with seemingly no reason or explanation, had sent his girlfriend away to another country (Las Vegas Metropolitan Police Department, 2018). Serious warning signs are not only visible in hindsight (Lankford, Adkins & Madfis, 2019).

Despite it being extremely challenging to predict which individuals will go on to perpetrate a mass shooting attack, there does exist specific features exhibited in the individual that can indicate the need for the mental health professional to refer the individuals to further, intensified primary care. In a survey comprising of 34 adolescent mass murderers, the majority were found to be "loners" who abused substances and exhibited a preoccupation with violent fantasies (Meloy et al., 2001). Threat assessment, according to Weisbrot (2008), needs to include a thorough psychiatric diagnostic evaluation (including assessments of suicide risk, homicide risk). It is crucial to evaluate whether the individual has access to or intense preoccupation/fascination with firearms and engages in writings and/or drawings featuring violent themes (Flannery, Modzeleski & Kretschmar, 2013). An increasing number of studies have highlighted that one potential risk factor that can contribute to the "warrior mentality" is an intense preoccupation (e.g., Meloy et al., 2004). It has been postulated that this "preoccupation may compensate psycho-dynamically for a sense of impotence and failure through narcissistic fantasy, and it may behaviourally increase skill in planning and acting" (Hempel & Richards, 1999, p. 220). Such fixation on violent fantasies concerning previous cases is documented in the academic literature (e.g., Kiilakoski & Oksanen, 2011). Relevant histories should also consider the possibility of abuse and violent victimisation and perpetration, trauma and dysfunctional relationships with peers (e.g., bullying) (Flannery, Modzeleski & Kretschmar, 2013).

Madfis (2014) highlights that the relatively few studies that have been carried out to date, which have investigated how prior incidents of school rampage were thwarted (Newman et al., 2004; Daniels et al., 2007; Pollack, Modzeleski & Rooney, 2008; Larkin, 2009; Daniels et al., 2010;), have largely identified one common factor by which these potentially devastating tragedies were prevented. This common factor was the prospective school shooters sharing their violent intentions to others (i.e., O'Toole's concept of leakage behavior) who in turn informed the school and police authorities (Wike & Fraser, 2009; Madfis, 2014).

Increase the availability of walk-in counseling treatment services as well as mobile counseling treatment

Social isolation and limited social support is argued by Fox and Levin (1998) to be a common feature in shooters. However, an isolated individual who is contemplating violence following a strain (e.g., divorce, losing a job or custody of children) is unlikely to seek psychological help/support from mental health professionals. Having rudimentary psychological services (which have the ability to refer the most at-risk individuals on to appropriate services) readily accessible might be one way to address this issue. Such rudimentary services may be able to help an individual to

the point where they are no longer an immediate threat, considering violence to be their only option. Following such recommendations, the state of Colorado in the United States passed legislation following the 2012 movie theater shooting in Aurora, Colorado, that requires the availability of walk-in counseling treatment services as well as mobile counseling treatment (Coordinated Behavioral Health Crisis Response, SB 13–266, 69th General Assembly, 2013; Taylor, 2016). It is also worth pointing out here that recent work has found evidence that supports the theory that mass murderers possess the required cognitive abilities to engage effectively in both preventative or rehabilitative treatment (Fox et al., 2016).

Need to improve education about warning signs and challenges to people communicating their knowledge about leakage

The need to improve education about warning signs is particularly important given that people may not communicate their knowledge about leakage if they are not absolutely certain about the individual's intentions to actually carry out an attack. Moreover, it is possible that people tend to view actual threats as being innocent jokes, etc (Hoffman, 2017; Madfis, 2014a, 2018 – see Lankford, Adkins & Madfis, 2019). This was the case with mass shooter Dylann Roof, for example. His friends thought he was joking when he told them his attack intentions. Lankford and colleagues (2019) also highlight the fact that people may be more willing to report the leakage from a stranger, but be may be more hesitant to report the leakage of a family member, friend or co-worker because it constitutes betrayal (Lankford, 2018; Lankford, Adkins & Madfis, 2019). Indeed, research seems to support this (see Madfis, 2014a). A study carried out by the FBI found that only 41% of active shooters who perpetrated an attack in the United States between 2000 to 2013 were reported to law enforcement in the lead up to their attack (Silver, Simons & Craun, 2018). There is a need for education in order to increase the number of people who report any concerning information to the authorities.

The need for more training of law enforcement

Lankford and colleagues (2019) also note that there have been some cases where law enforcement were unable to investigate potential threats appropriately. For instance, in the case of the 2012 Aurora movie theater shooter, the psychiatrist of this individual contacted the university's police department and its behavioral evaluation and threat assessment team regarding her concerns. However, no action was taken beyond carrying out a check to see whether he had a criminal record and limiting his access to campus (Associated Press, 2015). If they had examined further, the police might have discovered that he had a number of the key warning signs outlined by Meloy and colleagues (2012) and Lankford (2018), which may then have supported the need for further investigations. Had these further investigations been conducted, the fact that this individual had been acquiring weapons, building homemade explosives and running surveillance on potential targets would have

been revealed (O'Neill & Weisfeldt, 2015). This would then have resulted in significant cause for concern when evaluated based on a threat assessment perspective (O'Toole, 2000; Madfis, 2014; White, 2017). Such cases highlight the need for more education and training for law enforcement officers on identifying the common warning signs and evaluating potential threats. Given that not all threats are equally dangerous, the threat assessment approach (O'Toole, 2000; Cornell & Sheras, 2006) may be useful in helping to identify the threats that are most serious, which could help law enforcement know what features to look out for and what the best types of questions to ask are, etc (Lankford, Adkins & Madfis, 2019).

Another important consideration is that often, when interviewed, many of these individuals led law enforcement investigators to believe that they pose no harm to others (Wilber, 2016; Lankford, Adkins & Madfis, 2019). Law enforcement may be susceptible to some of the common misconceptions regarding a potential shooter and fall prey to the assumption that someone intelligent, well-educated, polite, articulate or middle class could not pose a threat to others (Lankford, 2018; Lankford, Adkins & Madfis, 2019). An example of where this occurred was in the case of mass shooter Elliot Rodger. Rodger had numerous interactions with the Sheriff's Office. The most notable one took place on April 30, 2014, a few weeks before he carried out his attacks. On April 30, a welfare check was carried out by six members of the Isla Vista Foot Patrol (usually a welfare check is only carried out by two members). Rodger's mother had been in touch with his life coach, informing him of the disturbing videos he had uploaded onto YouTube. The life coach then contacted Santa Barbara County Mental Health, which prompted the welfare check (Brown, 2015). Throughout the welfare check, Rodger showed no signs of being, nor made any statements suggesting, that he was a danger to himself or others. This is just one of many examples where he demonstrated his ability to present a normal affect when interacting with others. The welfare officers regarded him as being calm, shy and polite during the April 30 encounter. At the conclusion of the welfare check interview, the deputies considered that Rodger did not meet the criteria of California Welfare & Institutions Code §5150(a) that would have allowed them to take him into custody for up to 72 hours for a mental health assessment. Neither did they see any cause to take any further investigatory actions (Santa Barbara County Sheriff's Office, SBCSO, 2015).

Current criteria for legal purchase of firearms may be insufficient

A spokesperson from The National Rifle Association was in support of "following up on red flags" and "making sure that people who are dangerous should not have access to firearms" (Tatum, 2018). However, as accurately pointed out by Lankford, Adkins and Madfis (2019), there has been no research carried out that has investigated how the presence of these "red flags" impacts on the access to firearms. For instance, are individuals who have engaged in leakage and expressed homicidal intent still able to purchase firearms without coming across any legal barriers? Indeed, there are a range of data sources that have suggested that many shooters and

active shooters in the United States are able to legally acquire their firearm(s) (Silver, Simons & Craun, 2018). Currently, the United States' federal law prohibits any individual from possessing firearms if they have been involuntarily committed, adjudicated to be mentally defective or met numerous other criteria that would disqualify them from possessing firearms (Giffords Law Center, 2018). Despite the fact that a large number of shooters experience mental health issues, only a few have been involuntarily committed or adjudicated to be mentally defective (Silver, Fisher & Horgan, 2018). This has led Lankford and colleagues to argue that the current criteria for the legal purchase of firearms may not be sufficient in preventing or reducing the number of attacks (Lankford, Adkins & Madfis, 2019).

Reducing the number of fatalities: traditional lockdown approaches versus multi-option responses with barricading, evacuating and active resisting

The Virginia Tech shooting provides a unique perspective as highlighted by Jonson and colleagues (2017) because the shooter attempted to enter five classrooms during his rampage and the individuals in each of the five rooms responded differently to the attacker – passive traditional lockdown approach compared to the more active multi-option response approach to school shootings (TriData Division, System Planning Corporation, 2009). Multi-option response approaches (e.g., with barricading, evacuating and active resisting) increases the amount of effort required by the perpetrator to achieve their goal (Cornish & Clarke, 2003). On the other hand, the response that is advocated in the traditional lockdown approaches gives the perpetrator minimal or no active resistance as potential victims are huddled together in a corner behind a locked door (Jonson, 2017). When individuals took a more active multi-option response approach to the attacker during the Virginia Tech shooting, they appear to have gained a higher likelihood of surviving (A.L.i.C.E. Training Institute, 2014; Jonson, 2017).

The importance of responsible coverage of shooting attacks

Given that studies have found that fame-seeking is a motivating factor in many mass shooters, the question that must be raised is whether the media should cease to name the perpetrators of these tragic attacks – removing the fame and notoriety that they so desperately seek by their actions. Currently, the media offers a platform for antisocial youths to become a "star" and gain fame through acts of mass shootings (amongst other extreme acts of violence). There is a need to minimise the attention that these individuals receive through the media (Bushman et al., 2016). This issue has also recently been highlighted in the media. Dr Pete Blair from Texas State University argues that not identifying the perpetrator's name in the media may be one way to attempt to reduce the incidence of mass shootings (BBC News, 2016). What has also been suggested is that the stories of these attacks are moved to the last page of the paper as opposed to being front-page headlines. It is also recommended

that limited coverage regarding the victims might be justifiable on front-page headlines if they are local stories with local interest. The FBI encourages media outlets to minimize coverage of the perpetrator. They recommend focusing on any heroes, the victims and highlighting community resilience (Lankford, 2018 – see Majeed, Sudak & Beresin, 2019). The main argument is that in order "To stop the spectacle of mass killing, we need to keep them from being mass spectacles" (Eskey et al., 2015, pp. 533–534).

In an effort to reduce future attacks, there have been a number of campaigns that have received much support, including: "No Notoriety" (https://nonotoriety.com/) and "Don't Name Them" (www.avoiddenydefend.org/dont-name-them.html). These campaigns' primary aim is to challenge the media. They argue that, for the sake of public safety, there is a need for responsible media coverage of individuals who have attempted or engaged in mass shooting. It is recommended that the media avoid the use of the name and photograph of the perpetrator. In cases where the identity has to be revealed (e.g., if the person is at large), then only face photos and a description should be used (Sidhu, 2017; Lankford & Madfis, 2018). The main point is to eliminate in similar minded, would-be mass shooters the prospect of media fame and attention they so desperately desire (e.g., Baddour, 2015). However, it is not yet known what the potential social costs are (if any) when information regarding shooters is withheld from the public. Also, there has yet to be empirical investigation into which particular strategies are effective in deterring future would-be mass shooters (Lankford, 2016b).

The importance of intervening as early as possible

Shooting attacks are rarely impulsive and are typically methodically well-planned over some time. Therefore, warning behaviors will be exhibited by the individual before the attack takes place (O'Toole et al., 2014a). The vast majority of mass shooters are not individuals who simply "snap" (Egan, 1998; Palermo & Ross, 1999; Levin & Madfis, 2009; Madfis, 2016). However, O'Toole and colleague (2014a) argue that, by the time warning behaviors are exhibited in the individual, it may be too late. At this stage, "mental health is merely a detour to an involuntary commitment or an arrest that may or may not last 72 hours, followed by the release of a cagier and even angrier person" (O'Toole et al., 2014a, p. 41). Trying to intervene and address the problem when the would-be mass shooter is 22 years of age (as was the case of Elliot Rodger), O'Toole and colleagues (2014a) argue, is too late (O'Toole et al., 2014a). Therefore, trying to identify the early warning signs of antisocial behavior or mental health conditions, and addressing these issues as early as possible in the developmental trajectory, may be more effective in trying to avoid these tragic events. There is evidence that indicates that treatments that are specifically focused on children exhibiting early signs of behavioral risk are more effective (Ferguson et al., 2007; Ferguson, Coulson & Barnett, 2011).

Numerous early interventions have been found to be effective in preventing aggressive behavior. The early interventions comprise of "teaching youth social

skills, coping skills, and empathy, as well as creating environments that enhance support and secure attachment, do not tolerate bullying, provide skills for dealing with bullies, and instil healthy competition" (Nader, 2012, p. 23). As highlighted by Nader (2012), for interventions to be effective they must address both sides of the problem – the individuals themselves and the environments that contribute to their attacks. There have been numerous high-profile examples of mass shooters who have reported that the motivation for their attacks was the bullying and victimisation that they suffered. It is crucial that bullying in schools is targeted as early as possible (Reuter-Rice, 2008; Nader, 2012; Björkqvist, 2015).

The need for more resources to support school-based mental health services

The system could do more to "identify and assess youth from a very young age, … [deliver] effective mental health and educational service[s], and [facilitate] … cross-system communication among professionals charged with the care of children" to prevent violence (Office of the Child Advocate 2014, p. 3). The Centers for Disease Control and Prevention conducted a study that found that, nationwide, approximately 20% of all students require mental health services. However, many do not receive these services (Kann et al., 2016). More than 20% of students at some point experience a serious mental health disorder (Merikangas et al., 2010). This number does not include students struggling with problems that do not warrant an official diagnosis. A reasonable estimate is about 10 million students in need of professional help in K–12 public schools nationwide (National Center for Educational Statistics, 2017). It has also been recommended that there is a more comprehensive integrated school-based mental health program. Specifically, professional counselors, social workers and nurses should be trained alongside teachers in the effective identification of warning signs or risk factors in troubled students (Lenhardt, Graham & Farrell, 2018).

Currently, "school-based mental health services are lacking or often fragmented, marginalized, and/or underutilized despite the federal mandate to improve education for the whole student" (Lenhardt, Graham & Farrell, 2018, p. 17). However, "Schools should be enabled to hire more school-based mental health professionals (e.g., school counselors, school psychologists and school social workers) and funds should be allocated specifically for hiring these professionals" (NASP, 2013, p. 2). Also, there is a need for more intensive specialized mental health screening of troubled students in school-based programs (Cornell et al., 2004; Rossen & Cowan, 2014) so they can receive the help and support that they need. Threat assessments would then provide information about the level of potential risk the individual poses (Fein et al., 2002; Elliott, 2009; Woodward & Goodrum, 2016 – see Kingston et al., 2018). As highlighted by Lenhardt and colleagues (2018), there have been studies that have concluded that there is a strong need for effective prevention and intervention programs and more comprehensive threat assessment in schools (Cornell et al., 2004; Astor et al., 2005; Daniels et al., 2010). The Secret Service

and the FBI have developed a framework of recommended procedures and protocol that provides professional counselors with a conceptual framework for best practice, school-based risk assessment (Dwyer, Osher & Warger, 1998; Borum et al., 1999; O'Toole, 2000; Verlinden, Hersen & Thomas, 2000 – see Halikias, 2004 and also Bernes & Bardick, 2007).

There is clearly a need for educating parents about the internet, implementing anti-bullying programs, advocating for quality mental health services in schools, social support systems and developing internet support groups for youth (Reddy et al., 2001; Markward, Cline & Markward, 2001; Harding, Fox & Mehta, 2002; Pittaro, 2007). There is a need for increased access to therapeutic services, psychoeducation and peer support for families who have children with specialized needs. Even more crucially, as highlighted by the case of Adam Lanza, "Systems must be ready to respond supportively and appropriately (up to and including a referral to child protective services) when a parent, even with education and resources, appears unwilling or unable to meet the needs of their child" (Office of the Child Advocate, 2014, p. 10). NASP recommends a comprehensive school safety policy that includes the following:

- Increased access to mental health services and supports in schools.
- Development of safe and supportive schools.
- Implementation of school safety initiatives that consider both psychological and physical safety.
- Improved screening and threat assessment procedures to identify and meet the needs of individuals at risk for causing harm to themselves and others.
- Establishment of trained school safety and crisis teams.
- A national campaign to reduce stigma around mental illness and to promote mental health on par with physical health.
- Policies that limit exposure to media violence among children, youths and vulnerable populations.
- Review and revision of current policies and legislation addressing access to firearms by those who have the potential to cause harm to themselves or others.

Similarities in the genesis and performance of terrorist attacks and school shootings

School shootings and lone-actor terrorism have been treated in the research as separate phenomena. However, it is becoming recognized that school shooters and lone-actor terrorists may be more similar than previously thought, with regards to their execution and developmental path – pathway to intended violence (Böckler, Leuschner, Roth, Zick & Scheithauer, 2018). For instance, in their study, Sandberg and colleagues (2014) have drawn attention to the fact that the writings of mass shooter Anders Breivik were influenced by the rhetoric of right-wing Islamophobic groups as well as the cultural script of school shootings. Breivik's planning,

preparation and execution of his attack on the Workers' Youth League summer camp on the island of Utøya echo that of the school (or mass) shooter. For instance, when planning and preparing for his attack, Breivik went into almost complete social isolation (much of his social life was online). His preparations for the attacks were comprehensive, and he drafted a number of statements where he justified his actions and presented himself as being the defender of European culture. The drafting of such statements is something seen in many school (or university) shooters (e.g., Dylan Klebold; Eric Harris; Seung Hui Cho; Pekka-Eric Auvinen; Chris Harper-Mercer) and mass shooters (e.g., Elliot Rodger). Lankford and Hakim (2011) were the first to look at the similarities between school shootings and terrorist attacks, when they compared a group of American school shooters with a group of Palestinian suicide bombers. The differences between the groups are cultural as opposed to personal in nature. Their study revealed that there were a number of important commonalities between the school shooters and the suicide bombers (the terrorists) with regards to their psychological constitution and motivation. Some of the features shared by both groups included: having experienced a highly troubled childhood, relative deprivation and low levels of self-esteem. What we see in both school shooters and the terrorist is the experience of personal crises that propel the individual down the path to intended violence where they start to believe that violence is their only option, with the underlying motive of avenging injustice, while also gaining fame and notoriety (Böckler et al., 2018).

Risk assessment in the prevention of violent radicalization into terrorism

There has been much less focus on risk assessment in the prevention of violent radicalization into terrorism (Sarma, 2017). Lone-actor terrorist attacks are the most unpredictable and difficult to prevent forms of terrorism (Bakker & De Graaf, 2011). There are a number of explanations for this. The intentions of the lone-actors terrorist are hard to detect as they typically avoid contact with other people. This is one of the central reasons why lone-actor terrorists are so challenging to identify, monitor and arrest. Breivik warned others who were potential terrorists that they increased their chance of being detected by 100% for every other person that they get involved with in their preparations: "Don't trust anyone unless you absolutely need to (which should never be the case). Do absolutely everything by yourself," he advised (Berwick, 2011). Distinguishing between those lone-actor extremists who actually plan to carry out an attack and those who are just expressing their radical beliefs or issuing hollow threats (hoaxes) presents as a significant, seemingly unsurmountable, challenge. Although the majority of terrorists are radical, not all radicals are terrorists (Horgan & Taylor, 2011). Even with the assistance of the most sophisticated technical intelligence gathering tools, it is extremely challenging to identify the lone-actor who will actually carry out an attack before they strike. There is an urgent need for more research to investigate the modus operandi of lone-actor terrorists and their radicalization processes (Bakker & De Graaf, 2011).

In the United Kingdom, the Identifying Vulnerable People (IVP) system was developed, which identifies a list of indicators (which were derived based on the findings from research that has been carried out on extremism and violence as well as publicly available resources on violent extremists who have been convicted) (Cole et al., 2013). The IVP system pulls together numerous "red flag" behaviors, including: being a member of non-violent radical groups, having contact with known extremists, having advanced military training, having experience of combat overseas, as well as other factors, including: if there is any evidence of cultural and/or religious isolation, if there is any isolation from family, if there are any risk-taking behaviors, any display of hate rhetoric or political activism. One of the recommendations that the developers of the IVP system make is that "even a single factor should prompt the practitioner to seek advice from their line manager" (Cole et al., 2013, p. 7; see also Cole & Cole, 2009). The IVP was developed to reduce the risk of "home grown" terrorism. However, reference in the guidance is made more generally to "international terrorism" (Cole et al., 2013, p. 3). (see also Sarma, 2017).

Sensitivity and specificity are two measures of the performance of a risk assessment system. Sensitivity is a term that refers to the ability of the tool to accurately identify those who are at high risk of engaging in terrorism, the true positives. Specificity, on the other hand, is a term that refers to the accurate identification of those who are not at risk of engaging in terrorism, the true negatives (Douglas et al., 1999; Constantinou, Freestone, Marsh & Coid, 2015). Due to the severe lack of a strong evidence base and also the real possibly of "missing" a true positive leading to devastating consequences, existing risk assessment guidelines prioritize sensitivity at the expense of specificity. However, this means that indicators are so broad in nature that they not only lead to the correct classification of those who will go on to become involved in terrorism but also huge numbers of individuals who never will become involved in terrorism (Sarma, 2017).

Summary

There is a need to intervene as early as possible in order to reduce or avoid more serious behavioral problems later. More school-based mental health services is one promising approach to identifying and addressing the mental health concerns of young people (Maughan et al., 2018; Gonzalez-Guarda et al., 2018). More funding is also needed for programs for young people already suffering from mental illness and individuals at risk (Leiner, De la Vega & Johansson, 2018).

Future prevention efforts should aim to:

- educate, encourage and pressure the public to report warning signs to law enforcement;
- educate and train law enforcement so that they can more effectively investigate potential threats;
- limit firearms access for people who have admitted having homicidal or suicidal thoughts or being interested in committing a mass shooting;

- promote responsible coverage of mass shootings that include avoidance of sensationalism. The FBI encourages media outlets to minimize coverage of the perpetrator and instead describe any heroes, the victim and highlight community resilience;
- stimulate the need for effective prevention and intervention programs and more comprehensive threat assessment in schools.

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